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THE

EDUCATIONAL TIMES,

AND

Journal of the College of Preceptors.

Vol. L.] New Series, No. 429. JANUARY 1, 1897. { *Price to Non-Members, 6d.* *By post, 7d.*

COLLEGE OF PRECEPTORS.—The Half-Yearly General Meeting of the Members of the Corporation will be held at the College, Bloomsbury Square, W.C., on Saturday, the 23rd of January, at 3 p.m.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
EXAMINATIONS FOR 1897.

1. DIPLOMAS.—The Midsummer Examination of Teachers for the Diplomas of the College will commence on the 6th of July, 1897.—At the Midsummer Examination, persons who have previously passed in Theory and Practice of Education at the Diploma Examination may be examined practically for Certificates of Ability to Teach.

2. CERTIFICATE EXAMINATIONS.—The Midsummer Examination for Certificates will commence on the 29th of June, and the Christmas Examination on the 7th of December.

3. JUNIOR FORMS EXAMINATIONS.—The Midsummer Examination will commence on the 29th of June, and the Christmas Examination on the 7th of December.

4. PROFESSIONAL PRELIMINARY EXAMINATIONS.—These Examinations are held in March and September. The next Examination will commence on the 2nd of March, 1897.

5. INSPECTION AND EXAMINATION OF SCHOOLS.—Visiting Examiners are appointed by the College for the Inspection and Examination of Public and Private Schools.

PRIZES.

Diploma Examination.—In addition to the Doreck Scholarship of £20, the following Prizes will be competed for: Theory and Practice of Education, £10; Classics (Greek and Latin), £5; Mathematics, £5; Natural Science, £5.

Certificate Examination.—The "Isbister Prize" will be awarded to the Candidate who stands First, and the "Pinches Memorial Prize" to the Candidate who stands Second in General Proficiency. Prizes will also be awarded to the Third and Fourth in General Proficiency, and to the First and Second in the following subjects:—Classics, Mathematics, Modern Languages, Natural Sciences, English Subjects. The "Taylor Jones Memorial Prize" will be awarded to the best Candidate in Scripture History. Two Medals will be awarded to the best Candidates in Shorthand.

The Regulations of the above Examinations can be obtained on application to the Secretary at the College, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., *Secretary.*

PRELIMINARY EXAMINATION of MEDICAL STUDENTS.—The COLLEGE of PRECEPTORS will hold an Examination for Certificates recognised by the General Medical Council as qualifying for Registration as a Medical Student, on the 2nd, 3rd, and 4th of March, 1897.

The Examination will take place in London, and at the following Local Centres:—Birmingham, Bristol, Leeds, Liverpool.

Examination Fee, 25s.

Regulations and Entry Forms may be obtained on application to the Secretary of the College of Preceptors, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
EXTRACT FROM THE BY-LAWS.

Section II., clause 5.—"The Council may grant the privileges of Membership, without payment, to holders of Diplomas of the College, as long as such persons are engaged in teaching in Secondary Schools."

Holders of the College Diplomas who are not Members of the College are requested to send their Addresses the Secretary of the College, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
(Bloomsbury Square, W.C.)

TRAINING COLLEGE FOR TEACHERS IN SECONDARY SCHOOLS (Non-Residential).

Principal—J. J. FINDLAY, M.A. Oxon., Ph.D. Leipzig.

The next term will commence on the 19th of January. Prospectus may be obtained on application.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS
TRAINING COLLEGE LECTURES.

SPRING AND SUMMER TERMS, 1897.

The Courses of Lectures given in the Training College (on The Theory and Practice of Education, on School Hygiene, Voice Production, &c.) are now thrown open to teachers (men and women) who may desire to attend one or more of them. The hours are arranged so as to meet the convenience of teachers engaged in school work during the earlier portion of the day.

A list of the lectures may be had on application to the Secretary.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
(BLOOMSBURY SQUARE, W.C.)

LECTURES FOR TEACHERS.

The First Course of Lectures (Twenty-fourth Annual Series), by JAMES SULLY, M.A., LL.D., Grote Professor of the Philosophy of Mind and Logic in University College, London, on "Child-Psychology in its bearing on Education," will commence on Thursday, February 11th, at 7 p.m.

The Syllabus of the Course may be obtained on application to the Secretary.

*** A Doreck Scholarship, of the value of £20, will be awarded at the Diploma Examination at Christmas next to the Candidate who, having attended two courses of the Training Class Lectures during the preceding 12 months, and having passed the full examination for a College Diploma, stands first in the examination in the Theory and Practice of Education.

The Fee for the Course is Half-a-guinea.

The Lectures will be delivered on Thursday Evenings at 7 o'clock, at the College, Bloomsbury Square, W.C.—Members of the College have Free Admission to the Courses.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
SCHOLARSHIPS FOR INTENDING TEACHERS.

With the view of encouraging the systematic training of teachers for their profession, the Council have established four Scholarships (two for male and two for female candidates), which will be offered for competition at the Certificate Examination in June, 1897.

The value of each of these Scholarships is £45 for a single year, or £30 a year for two years, if the candidate should determine to extend the period of training over more than one year.

The Scholarships for male candidates are tenable only at the College of Preceptors Training College; those for female candidates are tenable at any Training College for Teachers in Secondary Schools, either at home or abroad, that may be approved by the Council.

Candidates (who must not be under 18 or over 21 years of age at the date of the Examination) are required to declare their intention of competing for these Scholarships prior to the Examination, and to submit such testimonials of character as may be considered satisfactory by the Council.

The Scholarships will be awarded to those candidates who, having fulfilled the above conditions, obtain the highest places in the Honours Division of the First Class.

C. R. HODGSON, B.A., *Secretary.*

NOTICE.—The "EDUCATIONAL TIMES" for FEBRUARY will contain the CLASS LISTS of CANDIDATES who have passed at the recent CHRISTMAS EXAMINATIONS of the College of Preceptors.

The Volume for 1896 is now ready, price 7s. 6d. Cases for binding the Volume may also be had, price 1s. 6d.; by post, 1s. 8d.

UNIVERSITY DIPLOMA FOR WOMEN.

THE UNIVERSITY OF ST. ANDREWS grants Diploma and Title of L.L.A. to WOMEN.

60 Examination Centres in Great Britain and abroad.

For Prospectus, apply to the SECRETARY, L.L.A. Scheme, The University, St. Andrews, N.B.

FROEBEL SOCIETY'S SATURDAY CLASSES.—A Course of Twelve Lectures on "Nature Knowledge," and "Tablets, Stick-Laying, and Gifts 3 and 4," respectively, will be given at the St. Martin's Schools, Charing Cross, beginning about the middle of January, 1897. For all particulars apply to the SECRETARY OF THE FROEBEL SOCIETY, 12 Buckingham Street, Adelphi, London, W.C.

A HOLIDAY COURSE OF LECTURES and DEMONSTRATIONS on FROEBELIAN METHODS of EDUCATION will be given by the Froebel Society from January 4th to January 9th, 1897, at Essex Hall, Essex Street, Strand, London. For all particulars apply to the SECRETARY OF THE FROEBEL SOCIETY, 12 Buckingham Street, Adelphi, London, W.C.

LONDON UNIVERSITY
EXAMINATIONS.

Free Guides.

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B.A. GUIDE.

No. X., October, 1896, containing the Examination Papers of October, 1896, and Articles on the Special Subjects for 1897 and 1898.

INTER. SC. & PREL. SCI. GUIDE.

No. VIII., 74 pp., containing the Examination Papers of July, 1896, with full Solutions to the Papers in Pure Mathematics.

Any one of the above Guides, Prospectus, and full particulars of Classes for all London Exams., post free on application to

THE SECRETARY,
(*University Correspondence College, London Office*),
32 Red Lion Square, Holborn, W.C.

UNIVERSITY COLLEGE of NORTH WALES, BANGOR.

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Principal—H. R. REICHEL, M.A., Fellow of All Souls' College, Oxford.

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Greek	W. Rhys Roberts, M.A., late Fellow of King's College, Cambridge.
Latin	E. V. Arnold, M.A., late Fellow of Trinity College, Cambridge.
French and German	Frederic Spencer, M.A. (Camb.), Phil. Doc. (Leipzig).
History	The Principal.
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Philosophy	James Gibson, M.A., Fellow of St. John's College, Cambridge.
Mathematics	G. B. Mathews, M.A., late Fellow of St. John's College, Cambridge.
Welsh	J. Morris Jones, M.A., late Scholar of Jesus Coll., Oxford.
Welsh History	Lecturer—J. E. Lloyd, M.A., Lincoln College, Oxford.
Physics	Andrew Gray, M.A., LL.D., F.R.S.
Chemistry	J. J. Dobbie, M.A., D.Sc., late Clark Fellow of Glasgow University.
Biology	R. W. Phillips, M.A. (Camb.), B.Sc. (Lond.), late Scholar of St. John's College, Cambridge.
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Education	J. A. Green, B.A.

With nine ASSISTANT LECTURERS and DEMONSTRATORS.

The next Session opens on September 29th, 1896. Inclusive Tuition Fee, £11. 1s. a year. Laboratory Fees additional, on the scale of £1. 1s. per term for six hours a week.

The College Courses qualify for the Degrees of the University of Wales, and include most of the Subjects for Degrees of London University in Arts and Science. Students wishing to graduate in Medicine in the Universities of Edinburgh and Glasgow can make one Annus Medicus at this College. Special provision is made for Electrical Engineering. There is a Day Training Department for Men and Women, and a Department for the Training of Secondary Teachers.

The average cost of living (in lodgings) and tuition at Bangor for the Session (33 weeks) is from £30 to £40. A Hall of Residence for Women, under the supervision of Miss Mary Maude, who is the College Lady Superintendent of Women Students, is now open. At the Entrance Scholarship Examination (which commences in September in each year) over 20 Scholarships and Exhibitions, ranging in value from £40 to £10, will be offered for competition.

For detailed information as to Courses, Entrance and other Scholarships, &c., apply to the Secretary and Registrar, J. E. LLOYD, M.A.

Bangor.

ROYAL INDIAN ENGINEERING COLLEGE, COOPERS HILL, STAINES.

— The Course of Study is arranged to fit an Engineer for employment in Europe, India, and the Colonies. About FORTY STUDENTS will be admitted in September, 1897. The Secretary of State will offer them for competition Twelve Appointments as Assistant-Engineers in the Public Works Department, and Three Appointments as Assistant-Superintendents in the Telegraph Department. For particulars apply to the SECRETARY, at the College.

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OXFORD LOCAL EXAMINATIONS.

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The Regulations for the Senior, Junior, and Preliminary Examinations for 1897 can be obtained from the Secretary,

E. LAYMAN, Esq.,

1 Garden Court, Temple, E.C.

BEDFORD COLLEGE, LONDON (FOR WOMEN),

YORK PLACE, BAKER STREET, W.

Principal — Miss EMILY PENROSE.

SESSION 1896-7.

The Lent Term will begin on Thursday, January 14th. Courses in preparation for all the Examinations in the Faculties of Arts and Science held by the University of London. Special Course of Scientific Instruction in Hygiene and Public Health. Lectures in all branches of Higher Education. Six Laboratories open to Students for practical work. Art School open from 10 to 4. Students can reside in the College.

LUCY J. RUSSELL, *Honorary Secretary.*

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YORK PLACE, BAKER STREET, W.

DEPARTMENT FOR PROFESSIONAL TRAINING IN TEACHING.

(Recognized by the Cambridge Syndicate.)

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Students (Resident and Non-Resident) trained for the Examinations of the National Froebel Union, Cambridge University (Higher Local and Teachers'), and for the Teachers' Diploma of the College of Preceptors.

The NEW TERM begins on 19th January, 1897.

For Prospectuses apply to the SECRETARY, Highbury Hill House, London, N.

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— Preparation for the Cambridge Teachers' Examination. Also for the Froebel Society's Joint Board Examinations. *Elementary Course:* Methods of using Froebel's first four Gifts; Nature Teaching applied to Botany and Zoology; Blackboard and Colouring in connexion. Occupations, with the working out of those for the year. Kindergarten Games, simple movements, Tonic Sol-fa, and Recitations. Special arrangements with Training Colleges and School Boards. *Advanced Course:* Subjects required for the Joint Board's Higher Certificate; Application of Froebel's Methods to successive grades of advancement. Testimonials of efficiency at end of course. The Classes assemble about 1st February, May, and October. Entrance Forms on application to — THE SECRETARY, 13 York Place, W.

KING'S COLLEGE, CAMBRIDGE.

—There will be a Competition for a TENOR CHORAL SCHOLARSHIP on Thursday, March 4, 1897, value £80 for 3 years. The successful candidate will be required to enter the College as a Member of the University not later than April 10, 1897. For further information apply to the DEAN.

SECTION G, METROPOLITAN.

OPEN EVENING.

FRIDAY, February 5th, 7.15 p.m.

Social gathering at the Mary Datchelor School, Camberwell. Miss AGNES J. WARD will lecture at 8 p.m. on "Rallying Points."

This lecture will deal with questions of special professional interest in view of approaching legislation on Secondary Education.

Members of other Sections and their friends are cordially invited. The lecture will be followed by discussion.

UNIVERSITY COLLEGE, BRISTOL.

The SECOND TERM will begin on 19th January.

Sessional Courses are organized for the Matriculation, Preliminary Scientific, Intermediate Arts, and Intermediate Science Examinations of the University of London, and for the B.A. and B.Sc. Degree Work.

Complete Three Years' Courses are arranged for Mechanical and Electrical Engineering, and a Two Years' Course in Civil and Mining Engineering.

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The Chemical and Physical Laboratories and the Workshops open Two Evenings a week.

Medical Education is provided by the Faculty of Medicine.

Calendar, containing full information, price 1s. (by post 1s. 4½d.), or Prospectus (gratis), may be obtained on application.

JAMES RAFTER, *Secretary.*

CAMBRIDGE TRAINING COLLEGE FOR WOMEN.

The Council are about to appoint two Lecturers—(1) a SENIOR LECTURER, residence and £120 a year; (2) a JUNIOR LECTURER, residence and £90 a year.

The Lecturers must have Degrees (or an equivalent Certificate of some University), and one of them a competent knowledge of some branch of Natural Science. They must enter on their duties in September, 1897. Application should be made by February 15, 1897, to the PRINCIPAL, from whom the particulars can be obtained.

TRINITY COLLEGE, LONDON.

For Musical Education and Examination.

Instituted 1872.

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LENT TERM commences Monday, January 18.

SIGHT-SINGING from the Staff Notation (movable *doh* system).

A Special Course of Twelve Lecture-Lessons will be given by Mr. W. HARDING BONNER on Wednesdays at 5 o'clock, commencing January 20. Fee 10s. 6d. the Course. This class will be helpful to singers generally, and specially to those who wish to train choir-boys, or to teach class-singing in schools.

Prospectus, &c., can be obtained on application to the undersigned.

By order of the Academical Board,

SHELLEY FISHER, *Secretary.*

Mandeville Place, Manchester Square, W.

WELSH INTERMEDIATE EDUCATION ACT, 1889.

PEMBROKESHIRE COUNTY SCHEME.

The County Governing Body are prepared to appoint a HEADMASTER for the County Intermediate School (mixed) at St. David's, at a salary of £120 per annum, with a capitation payment of £1 for each scholar in the School.

A Headmaster must have taken a Degree in the United Kingdom, and must be qualified to earn Grants in connexion with the Science and Art Department.

A knowledge of Welsh is desirable but not indispensable.

Copies of the Scheme, giving full particulars, may be obtained from the undersigned, price 6d.

Applications, stating age and qualifications, and accompanied by 30 copies of application and testimonials, must be sent in, addressed to the undersigned, not later than the 9th January, 1897, and applicants are requested to state which of the subjects to be taught in the Schools they can themselves teach.

Applicant will be required to commence duties immediately on appointment.

WM. DAVIES GEORGE,

Clerk to the County Governing Body.

Shire Hall, Haverfordwest.

December 17th, 1896.

N.B.—It will probably be required by the County Governing Body, in making the appointment, that one term previous notice will have to be given to terminate the engagement.

NEW ZEALAND. — A MASTER

(Latin and English) is required for the Auckland College and Grammar School. Salary £350 per annum, and £60 allowance for passage to the Colony. Application forms and further particulars can be obtained from the SECRETARY, New Zealand Government Office, 13 Victoria Street, London, S.W.

December 14th, 1896.

London University Examinations.

Univ. Tutorial College.

RED LION SQUARE, HOLBORN, W.C.

MORNING, AFTERNOON, and EVENING CLASSES

are held for the

MATRICULATION, INTER. ARTS AND SCIENCE, PRELIM. SCI. (M.B.), INTER. M.B. (Organic Chemistry), B.A. and B.Sc.

EXAMS. OF LONDON UNIVERSITY.

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Extract from the Principal's Report on last year's work:—"*At Preliminary Scientific (M.B.), at Intermediate Science, and at B.Sc., University Tutorial College appears in each case opposite more names on the official lists than does any other institution. The number of successes thus accredited to our Science Department at these examinations during the last session is 148, more than double the number so accredited within that period to any other institution.*"

The VICE-PRINCIPAL attends daily, to discuss Courses of Study, from 2 to 5.30, and at other times by appointment.

Prospectus and further particulars may be had from

THE VICE-PRINCIPAL,
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Change of Address.

GEORGE HEPPEL, M.A., Private Tutor, has removed from Bolton Lodge, Grove Park, Chiswick, to 55 MADELEY ROAD, EALING.

Pupils visited and received.

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The Educational Times.

The Editor will be glad to consider any Manuscript which may be submitted to him, whether of short special articles or of concise Correspondence on questions of present educational interest. He will also endeavour to give publicity to contributed items of news relating to Secondary Schools, Colleges, and the general interests of Education.

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Prizes.

"Of schools in all places, and for all ages, the healthy working will depend on the total exclusion of the stimulus of competition in any form or guise." How do these words accord with our end-of-term prize-givings and examination contests? And yet Mr. Ruskin is too sound a thinker, too honest and clear-sighted a man, for us to dismiss these words as the irresponsible babble of an enthusiastic visionary. When we are told of the American struggle for the almighty dollar we shake our heads and thank God that we are not as other men. We freely admit that the deity of "getting on" may be too closely and too slavishly worshipped. We admit that there are better things in life than material prosperity. We even, in our more lucid moments, realize that certain higher enjoyments are impossible to the over-prosperous. "It is easier for a camel to pass through the eye of a needle . . ." But in very truth the mad race for wealth, which in America has caused so bitter a war between capital and labour, and has resulted in the tying up of commodities in "corners," "rings," and the like, does not very greatly differ from the conditions of life in England to which we are rapidly approaching. The spread of education—such education as is given in our schools—has this one result at least. It stirs up a little of that feeling of divine discontent without which there can be no progress. But, in stirring, a wrong twist is given to this legitimate feeling. Wealth, using the word generally as opposed to poverty, becomes the one thing to be aimed at, because, where all is sacrificed to competition, it has become the test of success and the key to all life has to offer. To win money may be an honest aim, but it is not the only aim. To win applause may also be of value, but there is more in life than this.

In theory we all admit these statements. "Character is more important than knowledge," is said on platform and in newspaper. And yet the whole framework of our school system is designed to encourage just those qualities which are fulminated against by the preacher in the school chapel, and is designed to make the boy in after-life look upon money as the thing of first importance and the standard of all success. The whole system is one of competition. There are marks for each lesson, week's marks and week's places; the same at the end of term—examinations, prizes, and scholarships, and the like. But these marks and these prizes are not absolute. They are merely comparative. They are not a proof of duty well performed, but of tasks done *better* than by some one else. These things are bad—radically bad. But they need not be so. The fault lies in the method of administration, in the underlying feeling on the part of school authorities. Strife and rivalry may be healthy enough. It is excessive competition that does the harm. The desire for applause is natural enough, and forms a most valuable stimulus to mental activity. The desire for material advantage is at the root of all the advance of civilization.

Stimulus is needed, and there is none greater for the schoolboy than the feeling that he has earned the praise of a teacher he respects. Praise is good. Prizes are good. But the mischief comes in when Jones is praised *because* he is top of the class, and Smith is blamed *because* he is at the bottom. It may be that Smith deserves far more than Jones to be encouraged and praised. But, in spite of a gentle word from a kind-hearted master who partly sees the error, Smith will, on hearing his name read out last, have suffered a considerable check. His mental activity will probably grow less and less. The paragraph we have quoted from Mr. Ruskin continues in these words: "Every child should be measured by its own standard, trained to its own duty, and rewarded by its just praise. *It is the effort that deserves praise, not the success; nor is it a question for any student whether he is cleverer than others, or duller, but whether he has done the best he could with the gifts he has.*" We deplore in the world a state of affairs the seeds of which are sown in our own schools. Let teachers look to it, and endeavour to realize their responsibilities. Catch-words are often quoted, such as "The boy is father of the man"; "Knowledge is *not* power"; "Character makes up three-fourths of life"; "Virtue lies in the struggle, not the prize." These sayings contain much truth, but they may be, and often are, misapplied. Education should develop powers of body and mind. Mere competition deadens and degrades all faculties.

Art in Education.

The curious circumstance that methods are more conservative than ideas is forcibly illustrated in regard to education, for, though considerable progress has been made in the dissemination and application of

advanced principles, the development is by no means commensurate to modern requirements. Apart from this, there is still room and occasion for larger conceptions with regard to the nature and aims of education. Formerly the means were substituted for the end, and the subsidiary became the ultimate. Now, however, few will demur to the contention that "instruction is but the least part of education," although custom and prejudice stand athwart the path of progress. "The intellect," says Aristotle, "is perfected, not by knowledge, but by activity," and the measure of the success of any educational system is largely, if not wholly, the measure of the variety and extent of the activity it generates. A writer in a recent number of the *Contemporary Review*, in an article entitled "Modern Ideals in Education," drew attention to the fact that dormant activities may exist in a child, and remain undeveloped under an imperfect and inadequate system. "Originality, which is present in a thin vein—perhaps, for all its thinness, a choice quality—will not out unless it is worked"; and it is this function that Art, *inter alia*, is capable of performing, to a degree not yet adequately apprehended. If it cannot actually create an activity, Art may promote it, and to do that efficiently is to fulfil one of the highest purposes of education. Whether as a method of teaching truth through the medium of beauty—a theory held by some Italian educationalists—or as an unconscious agent of suggestion, elucidation, or exemplification, it is a latent force capable of being evoked and directed to practical educational ends. It is this potency in Art which needs to be urged with growing insistence as education becomes more complex and diffuse. What the ruder methods fail to achieve the finer and more delicate instrument may accomplish.

Herbert Spencer, who has contributed much towards the establishment of education on a scientific basis, maintained long ago that æsthetics should form a part of education from its commencement, and predicted that in the future it would occupy a far larger share in human life than now. That contention is slowly being recognized, and, as men's ideas of education become widened and deepened, so will his prediction approximate to fulfilment. While no one is too young for its use and none too old to be amenable to its influence, it is, perhaps, in the early years of the educational life that it will be found capable of the most varied application. Walter Pater, for example, in one of his essays, refers with approval to the stress which some people lay on the colouring, cheerful or otherwise, of the walls of a room where children learn to read, as though that had something to do with the colouring of their minds; and to the possible moral effect of the beautiful ancient buildings of some of our schools and colleges, as a true interpretation of the spirit of Plato, the central idea of whose theory of the educational use of Art, as developed in the "Republic," was that Art may, and ought to, have a definite function by the development of character.

These ideas are, to some extent, being carried out by a society to whose aims we have already drawn attention, the Art for Schools Association, which was founded in the year 1883, with the object of supplying an educational basis for the good work already being done by loan exhibitions of pictures in poor districts of London and other large towns. The promoters felt that, by simply placing in the class-rooms of elementary schools reproductions of beautiful and interesting works of art, it might be possible to awaken artistic interest, and prepare for the due appreciation of pictorial art. In addition to the work of publishing and supplying such reproductions, the Committee have added to this useful work the practice of conducting small parties of school-children through the public art galleries, the subject and history of the various pictures being thoroughly explained to them. Considerable progress in the work of the Society has been made, and last year 3,664 pictures were sold to various schools; and the insertion of a clause in 1895 in the new Code of the Education Department, under which visits to picture galleries, referred to above, subject to certain restrictions may count as school attendance, has enabled the Committee to carry out the other part of the Society's work with greater freedom and success. This is, perhaps, a small matter relatively to the educational value of æsthetics, but it is a step in the right direction, and is capable of further modification and development, on lines that growing experience will not fail to indicate. In view of the supreme importance of the end of all education, and its growing complexity, no means, however humble, can be neglected.

Art may thus legitimately ally itself with other methods in education and assist in their operation, and even actually achieve success where these fall short of that end. The last word has not been spoken on this subject, but Goethe, who sounded the possibilities of culture, and especially æsthetic culture, to their depths, struck the right note when he maintained that with man the first consideration was activity. "It is our ambiguous dissipating education that makes men uncertain; it awakens wishes when it should be animating tendencies." And between Art and activity there may be, under some circumstances, the relationship of cause and effect.

NOTES.

The Headmasters' Conference at Rugby summed up the educational discussions of the year; and the situation at which we have arrived could not have been better epitomized than it was by the various speakers on Mr. Keeling's resolution. The necessity for secondary organization was once more asserted, but it was evidently the general opinion of the Headmasters, as Mr. Keeling expressed it, that "we have had enough and to spare of conferences, Commissions, discussions and inquiry, blue books and draft schemes." In that we quite agree. We all know our minds by this time, and, as everybody in the world of education holds that local authorities are inadmissible without a central authority and a Council of Appeal, no Government is likely to bring in a Secondary Education Bill until it is ready to introduce these two indispensable features. The necessity of a central secondary authority and an Education Council has been affirmed, with practical unanimity, by the Oxford and Cambridge Conferences, by the Headmasters' Conference, the Association of Headmasters, the College of Preceptors, the Teachers' Guild—in brief, by every association concerned in secondary education. We wish we could add that it had been affirmed by the profession of secondary teachers as a *sine qua non*, without which there could be no guarantee for many of the very highest interests of education. There are some things which ought to be not merely implied, but categorically stated, and a manifesto from the teaching bodies as such would have been more definite, more final, more distinct in the eyes of the Government and the nation, than anything else. In the meantime, perhaps we have all that is necessary. What we look for

next is, not a Bill, or a vague promise of a Bill, but evidence that the Government are prepared to create a central authority and a Council for secondary education.

It is satisfactory to note that the Conference resolved, by a majority of twenty-six votes to two, that the Committee should continue their communications with the Teachers' Training Syndicate, and should take such steps as they may think fit to secure "a more general requirement of systematic training for young teachers in secondary schools." Canon Lyttelton seconded this resolution, and observed that all such schemes must fail unless individual headmasters took up the matter heartily. Mr. Bell, of Marlborough, pointed out that there were three modes in which a young man could train for his profession. One was bythe ordinary normal-school method; the second was by apprenticeship, as at Haileybury; and the third was the appointment of men to assistant-masterships on probation, on the understanding that within a given time they should qualify themselves to obtain not only a certificate of theoretical knowledge, but also one of practical efficiency. It may now fairly be claimed that men of experience in education are all but unanimous in affirming the necessity for judicious training.

Many schools adhere to their Christmas prize-givings, and December, as a consequence, brought forth sundry admirable addresses to boys and girls from the prize distributors. One of the best of these was the speech of Bishop Sheepshanks at Norwich Grammar School—the school of Archbishop Parker and six other bishops, of Nelson, and Coke, and other Englishmen who figure for something in the annals of their country. Dr. Sheepshanks, entrenched behind his lines of gilt-edged school prizes, took occasion to enforce a truth to which we have frequently drawn attention. He raised an involuntary groan from his younger audience by saying that he had been debating with himself "whether these prizes should be given at all."

> Prizes were very nice to look at as mementos of past successes, but it was a finer thing to do their duty irrespective of prizes. He wished them to bear in mind that it was simply a matter of duty to God and to their parents to do their duty, whether they got prizes or not. They must remember the real object of education. It was not merely to enable a boy to grind out Greek and Latin verses, or write good prose. The men who had proved most distinguished and useful in the world were not necessarily those who distinguished themselves most at school or college. It was those who were characterized by moral endeavour and moral improvement; so that the real object of education was to improve the moral character of the boys.

There is no doubt about it. That is the real object of education, or the object of a real education, which is ever present in the mind of a competent schoolmaster.

We trust that the Modern Language Association may develop new strength as a result of its meeting at the Memorial Hall. It certainly lays claim to our best wishes, in proportion as it assists the practical work of teaching foreign modern languages in English schools. Few needs of the day in respect of education are more urgent than this. Dr. Jex Blake, who distributed the prizes at King Edward's School, Bath, laid particular stress on the importance of modern languages. England, he said, was still the greatest commercial country in the world, having a trade greater than any other; and yet the middle classes of England were, generally speaking, unable to converse in foreign tongues. He contended that many millions were lost to the trade of this country because the people of England forgot that England was an island and the rest of the world did not talk English. To a boy who had learnt Latin it was easy to learn many of the other languages. "French would be easy. That would take him over nearly the whole of Europe. Italian he would be able to speak easily, while Spanish, another language easy for him to learn, would take him over the whole of South America. When a man had learnt two languages, the third was easier to learn, and so were the fourth and fifth." We shall be surprised if the teaching of modern languages in England is not very notably developed within the next few years.

It was stated in a recent number of the *Athenæum* that a suggestion has been made to the authorities of the University of Wales that an honorary degree should be conferred upon such headmistresses of Welsh intermediate schools as have passed the public examinations at Oxford and Cambridge which qualify men for a degree. It is held that these headmistresses (as well as the schools over which they preside) suffer in comparison with the women graduates of other British Universities. We trust that the suggestion will be acted upon, for, though the conferment of degrees by one University on the ground of qualification under the tests of another would be in itself irregular and incongruous, the exceptional circumstances in this case might fairly be held to justify it. But the mere suggestion is a further argument from public opinion, which ought not to be without weight at Oxford and Cambridge.

The Regius Professor of Modern History at Cambridge has signalized the first year of his professorship by an enterprise which is calculated to arouse no small amount of interest amongst scholars and schoolmasters. Under the title of "The Cambridge Modern History," Lord Acton has undertaken to edit for the Syndics of the Cambridge University Press a comprehensive history of modern times, which will consist of twelve volumes of about seven hundred pages each, beginning with the Renaissance. Each subject will be assigned to a competent specialist, and among those who have undertaken to share in the work are Mr. James Bryce, Bishop Creighton, Professor Flint, Mr. S. R. Gardiner, Mr. Lecky, Dr. Garnett, Mr. Frederic Harrison, Mr. R. H. Hutton, Dr. Fairbairn, Professor Jebb, Mr. John Morley, Sir F. Pollock, Professor York Powell, Sir D. Mackenzie Wallace, and Lord Wolseley. We have excellent histories already of particular epochs and particular countries, but Lord Acton's scheme is comprehensive, and cannot fail to produce much excellent work. In one sense it must be a mere summary; but even historical summaries may be masterly and interesting.

We have strained our eyes more than once in search of the six-figure benefactor to English education, whom we might match against the generous dollar-millionaires of America. This month we welcome the erection and endowment of the Davy-Faraday Research Laboratory in Albemarle Street, opened on December 22, by the Prince of Wales. Dr. Ludwig Mond is at any rate an Englishman by adoption, and his fortune has been made in England. Of the profits which he has made out

of applied chemistry, he returns £100,000 as a thank-offering to the source of his knowledge and his wealth. May this bright example be the beginning of a new era of high-minded six-figure munificence for the advancement of learning in England! Hundreds, perhaps thousands, of Englishmen in the present generation have amassed, by trade or manufacture, various multiples of £100,000, and we venture to say that they are missing the chief object of the accumulation of money—an object recognized in every other rich country more than in England—by not endowing some perpetual centre of beneficence to their kind. "Let the State look after it!" is the pretext on which our self-made men ride off with their money-bags. But the State comes in only because the individual fails.

Dean Farrar has been telling stories at the expense of the late Dean Stanley. At the Oxford Shorthand Society's gathering at Dover the other day, the Dean (who distributed the prizes) said that when he was at Marlborough College Dean Stanley wrote him a letter. It did not reach him at the time intended. The address was so hopelessly illegible that the post-office people could not decipher it, though they made courageous attempts. Of one thing they felt certain—that the last line consisted of two words, and the first of them began with an "M." The enigma was so far solved that the letter was held to be intended for somebody at Merthyr Tydfil. To Merthyr Tydfil, accordingly, it went. But it did not find a resting-place, and, after wandering all over the land, it was opened, and eventually fell into his hands with a somewhat less cryptographical superscription; and—to explain the delay—the original envelope was enclosed, with numerous marks of exclamation. Dean Stanley's books suffered much from this indistinctness of his handwriting, and in his famous "Sinai and Palestine" the words, "You may see the horizon of the burning bush," appeared in the grotesque form, "the horns of the burning beast." Again, owing to the distortion of the letters, and the fact that Stanley habitually shortened "Jerusalem" to "Jerus," an eloquent passage describing how, when the traveller in his walk from Bethany rounded the shoulder of the Mount of Olives, there suddenly burst upon his eyes a sight of the great city of Jerusalem, went forth to his readers as an ecstatic eulogy of a magnificent view of *Jones!* Dean Farrar added that, owing to a mishearing by a reporter, a curious mistake crept into the published form of one of his own sermons. Preaching in Westminster Abbey, he told the remarkable story of how the great and good Lord Shaftesbury received the first impulse to the noble work of his life, when he was a Harrow boy, on seeing the funeral of a pauper conducted in so loose and cruel a fashion. He was startled to find he was made to say "an *Arab* boy."

SUMMARY.

THE MONTH.

In Convocation at Oxford, on December 1, it was proposed to adopt a memorial to the Duke of Devonshire, as Lord President of the Council, desiring, in the event of future legislation with reference to secondary education, the creation of a central educational authority, with which the endowed and public secondary local schools might be "placed in close relation." Mr. Gerrans, on behalf of the Council, explained that it was sought to obtain in the case of these schools, connected as they were in most cases with the University by endowments, &c., a counterpoise to the strong local powers to which the Bill introduced in the late Session contemplated their subjection. A similar memorial was being promoted at Cambridge. Professor Case opposed the adoption of the memorial, which, he said, was unnecessary. The memorial would be regarded as a definite invitation to establish a general central educational authority. That authority it was proposed to arm with enormous powers. He objected to Government interference, which would inevitably destroy the voluntary schools. This would be still more deplorable in the case of girls than of boys. It was inconsistent with the voluntary character of the system of training of teachers adopted only the other day. It should not have been brought forward on a side issue, and in such vague terms. Mr. Matheson deprecated these views, and pointed out that the schools in question were already largely passing under the control of the local authorities, and that the counterbalancing central authority was urgently needed. The memorial was adopted by 82 votes to 26.

In Congregation at Cambridge, on December 10, a grace was presented to the effect that a memorial respecting secondary education, embodying the conclusions of the Easter Conference, be approved, sealed with the common seal, and presented to the Lord President of the Council. It was opposed on the ground that the University ought not to represent to the Government the importance of introducing at an early date legislation bearing on secondary education merely because certain resolutions were passed by a conference which, though convened by the University, was not to any adequate extent representative of it. On a division being taken the votes were: Placet, 129; non-placet, 44. At the same Congregation, the syndicate appointed to consider what further rights or privileges, if any, should be granted to women students by the University was continued to the end of the Easter term, 1897.

The authorities of Mason Science College, Birmingham, have drafted a Bill which they intend to prosecute in Parliament next session for the incorporation of the College, under the title of "Mason University College." This step, the abstract states, is rendered necessary, first, to change certain provisions of the deed of foundation, including the present disqualification for the office of trustee of all persons who are not Protestants and laymen, a disqualification which has not been imposed upon members of the teaching staff; secondly, to enable the College to become in the future a constituent part of a University now established or which may hereafter be established. The purposes of the College are set forth as being:—The provision of instruction preparatory to obtaining degrees in arts, science, medicine, and surgery, or to entering the learned professions, and the provision of higher technical instruction, and the means of carrying on literary, scientific, or medical research. It is proposed that the College authorities shall be as follows:—A President (the Right Hon. J. Chamberlain, M.P., has consented to become the first President of the College); three Vice-Presidents (Dr. J. Gibbs Blake, Mr. J. T. Bunce, and Alderman G. J. Johnson, the three surviving original trustees); a Court of Governors, including the President and Vice-Presidents, and about ninety life governors and fifty elective governors. The actual administration of the College will be entrusted to a Council of twenty-five members, including the President, the Vice-Presidents, the Treasurer, the five governors appointed by the Council of the City of Birmingham, the Principal, the Dean of the Queen's Faculty of Medicine, the three Professors elected to be governors by the Senate, and ten other members. The Principal and Professors for the time being will form the Senate and will be entrusted with the management of the education and discipline of the College, subject to the approval of the Council.

The first complete meeting of the Central Board for Welsh Intermediate Education was held at 8 p.m., on Friday, December 11, and 10 a.m. on Saturday, December 12, at the Shire Hall, Shrewsbury. The first business was the election of a Chairman and a Vice-Chairman. Mr. A. C. Humphreys-Owen, M.P., was elected Chairman, and Principal J. Viriamu Jones, F.R.S., of the University College of South Wales, Monmouthshire, Vice-Chairman. The main business of the meeting was the election of the Executive Committee, consisting of fifteen members, eight of whom must be chosen from representatives of County Councils and County Governing Bodies, and seven

from the other members of the Board. The election of the latter took place on the Friday night, and the following were elected:—Dr. Isambard Owen, Senior Deputy-Chancellor of the University of Wales; Principal Jones, F.R.S., ex-Vice-Chancellor of the University of Wales; Principal Reichel, M.A., the present Vice-Chancellor of the University of Wales; Principal Roberts, M.A., of the University College of Wales, Aberystwyth; Dr. G. S. Turpin, Headmaster of the Intermediate School, Swansea; Miss Collin, Headmistress of the Girls' Intermediate School, Cardiff; Mr. Tom John, Headmaster of the Board School, Llwynypia, Glamorganshire. On Saturday morning the eight representatives of County Councils and County Governing Bodies were elected, as follows:—Professor Anwyl, M.A., Cardigan County Governing Body; Rev. Alderman Aaron Davies, Glamorgan County Council; Mr. T. Mansel Franklin, Glamorgan County Governing Body; Alderman J. Jones-Griffiths, Glamorgan County Council; Mr. J. Herbert Lewis, M.P., Flintshire County Council; Mr. A. C. Humphreys-Owen, M.P., Montgomery County Council; Mr. P. P. Pennant, Flintshire Governing Body; and Mr. J. E. Powell, Denbigh County Governing Body. The main business of the Executive Committee will be to make arrangements for the examination and inspection of the intermediate schools throughout Wales. The first meeting will be held early in January, and soon after that date an advertisement will probably be issued for a permanent inspector.

The Headmasters' Conference was held at Rugby, on Tuesday and Wednesday, December 22 and 23, Dr. James presiding. The first and main subject of discussion arose on the motion of Mr. Keeling (Bradford), to the effect that the organization of secondary education was a matter of pressing necessity, and that the Government should be urged to deal with the question in the next session of Parliament. He said that the necessity for legislation was admitted by most people who had given serious attention to the subject. It was the unanimous opinion of the Royal Commission that legislation on secondary education should be amongst the first subjects which social legislation ought to deal with, and he thought that the opinion had been received with general approval, not only by schoolmasters but also by the whole country. Mr. H. W. Eve (University College School), who seconded the resolution, stated that the Committee appointed upon the initiation of the College of Preceptors were distinctly in favour of a strong central authority. With respect to local authorities, the Committee had in the main adhered to the lines of the Bill of last year, including, of course, the very important point of educational experts being associated with all local councils. Dr. Gow (Nottingham) opposed the resolution, because he thought that neither the country nor the nation was yet ripe for legislation. He desired that before the Government proceeded to legislate the opinion of the profession should be taken. The Royal Commission had forestalled professional opinion. The opinion of different bodies had been asked, but the profession had not been able to get a word in. No opinion had been asked on the question of inspection. The scheme would prevent any organization of their profession, for, if the distinctions between local and non-local schools were carried out, the leaders of the profession would be forming a small coterie of themselves, apart from the rank and file. He suggested that a great deal might be done by the constitution of a strong Council to bring the profession together. Mr. Keeling's motion was carried by thirty-three votes to nine.

It was subsequently resolved that the Conference should urge upon the military authorities that "it is not desirable that any such changes as are proposed should be made in the regulations which have been recently established, and which have enabled the Woolwich and Sandhurst candidates to more or less prepare together; and that the committee be instructed to urge the views of the Conference upon the military authorities." At Wednesday's sitting, the Conference resolved to continue their efforts with a view to securing the more general requirement of systematic training for young teachers in secondary schools. The question of the dismissal of assistant-masters of long standing without the right of appeal to the governing body was discussed, and it was decided to collect information on the subject. Another resolution was adopted with a view to increasing the efficiency of the school Volunteer movement.

On December 23, a public meeting of modern language teachers, convoked by the Modern Language Association, was held at the Memorial Hall, Sir John Lubbock presiding. The object of the meeting was to consider proposals for enlarging the scope and views of the Association, and the following resolutions were passed:—(1) "That the Modern Language Association has justified its existence in the past, and can fairly appeal for wider support from teachers, and all who have the study of modern languages at heart." This was moved by Sir Joshua Fitch, and seconded by Mrs. Henry Sidgwick. (2) "That to enable the Association to carry out its aims, an increased yearly subscription of one guinea is necessary." Dr. Heath moved, and Dr. R. Garnett seconded, this resolution. (3) "That it is imperative that the Association publish without delay an organ of its own"—moved by Mr. Storr, and seconded by Dr. Breul. (4) "That a Committee be elected to frame a new constitution to be submitted to the next general meeting."

At the annual distribution of prizes at the Chester Technical Schools, on December 3, Principal Rendall delivered an address on the "Humanistic and Scientific Sides of Education." He pointed out that scientific education had made stupendous progress in the last twenty-five years, and he thought it had been the means of changing the outlook of our present education.

They were at the present time face to face with the prospect of devising and establishing a system of secondary education, and for the welfare of the nation it was all-important that that should be done rightly and not wrongly, wisely and thriftily and not wastefully. He was pleased that the last Bill dealing with that education had been withdrawn, for he did not believe that for the welfare of the nation secondary education could ever be treated or established as a footnote to primary education. He did not believe that in any other civilized country in Europe it would have occurred to any Government or Parliament to establish its secondary education upon those lines, as a sort of appendage or footnote to the arrangements for primary education, and, therefore, he rejoiced to see the Lord President of the Council last week, when he received a deputation, announcing that secondary education would be treated separately from primary education. It was all-important that the two should be separately considered, and that some machinery should be made by which eventually, if it should prove possible, they might coalesce.

At a Society of Arts meeting on December 3, Mr. Hewins gave a lecture on "The Teaching of Economics," and after commenting on the meagre provision for such teaching in England, and on the attempt of the School of Economics to increase it, he said:

The Universities could supply all the necessary qualifications. They could train men up to the point at which some of the subjects could be undertaken with a fair chance of success, and the work itself would do the rest. Oxford might turn out men well qualified in all branches of economics which require careful historical training; Cambridge, its statisticians; Victoria University, men well versed in the economics of modern industrial and commercial questions. In each University there should be a laboratory for training and investigation in those subjects for which it was peculiarly fitted. In the case of London alone no selection of appropriate subjects was necessary, because every branch of economics could be studied with greater advantnge here than in any city in the world. In no city had there ever occurred so splendid an opportunity.

The annual meeting of the National Association for the Promotion of Technical and Secondary Education, and the conference of representatives of the Technical Education Committees of County and County Borough Councils and other local authorities giving rate-aid under the Technical Instruction Acts, were held on December 11 at the rooms of the Society of Arts. Lord Playfair occupied the chair, and there were also present Mr. Hobhouse, M.P., Mr. Yoxall, M.P., Sir F. S. Powell, M.P., Sir B. Samuelson, Mr. J. Brigg, M.P., Sir P. Magnus, Colonel Gamble, and Mr. F. Oldham (Secretary). Sir H. E. Roscoe read the ninth annual report, which stated that the committee had to record a remarkable awakening of public interest and activity respecting technical and secondary education. After an address from the Chairman, Mr. Halsey (Surrey) read a paper on "The Proper Area of Local Authorities charged with the Organization of Secondary (including Technical) Education"; Mr. Brigg followed with a paper on "The Best Modes of Co-operation between adjoining Counties and County Boroughs," and the last subject—"The Relation between Local Authorities and Government Departments with reference to the Inspection of Schools aided"—was introduced by Mr. Bothamley (Somerset). The discussion of the papers was joined in by Sir F. S. Powell, Mr. Snape (Lancashire), Mr. Ackerley (Wigan), Mr. James Hoy

(Manchester), and others. Mr. Halsey advocated the inclusion of non-county boroughs in the jurisdiction of the County Councils so far as technical education was concerned, and Mr. Snape urged that county boroughs might also be included; but these proposals met with opposition from various representatives of county boroughs, who held that at present there was a wider and broader view taken of the wants of education by county boroughs than by County Councils.

The Pupil Teachers' University Scholarship Committee held their annual meeting on December 8, at the offices of the London School Board. Canon Barnett presided, and moved the adoption of the report. The Bishop of Hereford, in supporting the motion, said the aim of the Committee was to bring some at least of the elementary teachers into closer connexion with the Universities. That would be a benefit to elementary education, and also to the Universities, by helping to make those ancient institutions thoroughly national. Among the other speakers were Mr. Oscar Browning, Mr. Mundella, M.P., and Mr. Birrell, M.P., who observed that the "plutocratizing" of the Universities was a nineteenth-century growth, and the sooner it was knocked on the head the better.

The death took place in December of the Rev. H. A. Holden, LL.D., formerly Vice-Principal of Cheltenham College, and Headmaster of Ipswich Grammar School. He was a member of the Senate of London University.

(*For "Universities," see page* 27.)

APPOINTMENTS, &c.

The appointment of Professor of Surgery at Cambridge has been deferred until January 1, 1898.—Dr. A. A. Kanthack has been nominated deputy for the Professor of Pathology at Cambridge.—Mr. Walter Rippmann, M.A., Camb., has been appointed Professor of German at Bedford College, London.

Mr. John Morley, M.P., has been selected to deliver the next Romanes Lecture.—The Rev. C. F. d'Arcy has been chosen Donnellan Lecturer at Dublin for 1897–8.—Mr. S. H. Leonard, B.A., has been appointed Assistant Reader in Roman Law and Jurisprudence at the Inns of Court.—Mr. Ernest Clarke has been appointed first Gilbey Lecturer in the History and Economics of Agriculture at Cambridge, for a term of three years.

At the last meeting of the Council of Bangor University College, the Chair of Pure and Applied Mathematics was filled by the appointment of Mr. George H. Bryan, Sc.D., F.R.S. Dr. Bryan graduated at Cambridge in 1886 as fifth Wrangler, and was subsequently placed in Class I., Division I., of Part II. of the Mathematical Tripos. In 1888 he was Smith's Prizeman, his essay being published by the Royal Society; he was then elected Fellow of Peterhouse. In 1895 he became Fellow of the Royal Society, and received the degree of Doctor of Science of Cambridge University. Dr. Bryan has been appointed one of the examiners for Part II. of the Mathematical Tripos (1897). He is the author of a very valuable Report to the British Association on the "Present State of our Knowledge of Thermodynamics," and of several other mathematical papers which are recognised as of great scientific value, and is one of the chief authorities on the kinetic theory of gases. He has also written several elementary text-books, which show great knowledge of the needs and difficulties of students, and which are much esteemed by teachers for their clearness and accuracy. Dr. Bryan has been fulfilling the duties of the post as temporary lecturer during the present term, and will enter upon his new position at the beginning of next term.

Professor Sir Douglas Maclagan has retired from his chair of Forensic Medicine in the University of Edinburgh.—The Rev. Dr. Poole, Senior Fellow of Trinity College, Dublin, resigns his position after a tenure of nearly half a century.—Miss Helen Gladstone, Vice-Principal of Newnham College for more than fifteen years, has resigned her position.—We understand that Mr. James A. Aldis, M.A., resigns the Headmastership of Walsall High School.

Miss C. J. Taylor, B.A., of the University College of Wales, Aberystwyth, has been appointed Headmistress of the Intermediate School, Pwllheli.—Miss Ella Morgan, B.A., has been appointed chief mistress of the Intermediate School at Festiniog. Miss Morgan is the daughter of the late Rev. Edward Morgan, of Dyffryn, a distinguished Welsh preacher. She is an old student of the University College of Wales, Aberystwyth, and is the first Welsh lady to gain the degree of B.A.—Miss Callow, B.A., has been appointed Lecturer in English at the Cheltenham Training College.—Miss M. Jenkins, Aberystwyth, has been appointed Headmistress at the Pupil Teachers' Centre, Llanelly.

The Rev. A. J. Galpin, M.A., of Marlborough College, has been appointed Headmaster of King's School, Canterbury.—The Rev. A. H. Talbot, M.A., succeeds Prebendary Meynell as Provost of Denstone College.—Mr. D. M. Allison, M.A., has been appointed Headmaster of Wormit School, Fife.—Mr. T. L. Williams, B.A. (Lond.), Headmaster of St. David's Intermediate School, has been appointed to a similar position at Brynmawr Intermediate School.

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The Annual Meeting of the College of Preceptors has been fixed for Saturday, January 23.

It has been decided by the Council, in view of the short time which has elapsed since the holding of the Jubilee Banquet, that the usual dinner of members and guests after the Annual Meeting shall be intermitted for this year.

A holiday course for teachers and others interested in education has been arranged, from January 4 to January 16, in connexion with Exeter Technical and University Extension College. Lectures will be delivered on "Psychology," "The Scientific Observation of Children," "The Teaching of Modern Languages, with special reference to German," "The Observation of Children," "Pre-Reformation Schools," &c. The lecturers include Mr. Holman, Dr. Warner, Dr. Breul, Miss Hughes, and Mr. Leach. Social functions will not be forgotten. The fees are moderate. The time-table and list of lodgings (price 6d.) can be obtained from the Hon. Secretary, Miss Montgomery, 10 Baring Crescent, Exeter, who will also supply any other information that may be needed.

The Froebel Society have arranged for a Holiday Course of lectures and demonstrations on Froebelian methods of education, to be held at Essex Hall, Essex Street, W.C., from Monday, January 4, to Saturday, January 9. There will be a conversazione on Monday, "Gifts" will be dealt with on Tuesday and Wednesday, "Occupations" on Thursday and Friday, and "Games" on Saturday.

In connexion with the City of London School a scheme is on foot to commemorate the fact that in 1847—just fifty years ago—the City of London led the way by first introducing the study of natural science into the curriculum of a public school. As the first teacher (from 1847 to 1869) was the late Mr. Thomas Hall, the jubilee of this interesting movement will be celebrated by the raising of a fund for instituting prizes or founding a scholarship (to be called the Hall Memorial) for the encouragement of chemistry and experimental science in the City of London School.

The Duke of Richmond and the Bishop of Chichester appeal for £1,000 in order to increase the usefulness of Bishop Otter Memorial College as a training college for elementary schoolmistresses. The Committee desire especially to enlarge the practising school.

The Howard Association, in their last report, suggest that a valuable means of further improving the training of pauper children would be the establishment of a special Children's Department of the Local Government Board. It should look after the technical training of the elder boys, the boarding out of the girls and younger boys, and have the special oversight of children of defective intellect or physical infirmity. No Act of Parliament is needed; the sanction of the Treasury is all that is required. The Chairman (Mr. Peek) and the Secretary of the Howard Association have united with others in memorializing the Government to constitute such a Department.

An appeal for public aid is being made on behalf of the Working Men's College, Great Ormond Street, the history of which is closely associated with the names of Frederick Denison Maurice, Thomas Hughes, J. M. Ludlow, and Sir John Lubbock.

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COLLEGE OF PRECEPTORS.

EVENING MEETING, DECEMBER 9, 1896.

The Chair having been taken by G. Brown, Esq., R. F. Charles, Esq., M.A., read a paper on

GEOGRAPHY AS A BASIS OF HISTORY TEACHING.

In his survey of the condition of knowledge about the time of the death of Queen Elizabeth, Bacon found the knowledge of geography or cosmography deficient. He defines it as a kind of "mixed history," compounded of natural history, of civil history, and of mathematics. In this last—mathematical or astronomical geography—he notes most proficiency, though it must be admitted that Bacon was never able to make up his mind whether the earth went round the sun or the sun round the earth. As to the natural history and the civil history of the world, it must be remembered that the poet who first spoke of putting a girdle round about the earth in forty minutes, and the seamen who first actually did sail round the earth, were contemporaries of Bacon, and so he says "it may be justly affirmed, to the honour of these times, . . . that this great building of the world had never through-lights made in it till this age of us and our fathers."

Since the time of Bacon these "through-lights" have been much improved: the sciences of geology and mineralogy, of botany and zoology and physiography, have been created. We have investigated the laws of heat, electricity, magnetism; we have sounded the ocean and mapped out its currents; we have climbed the Alps, and learned the secret of the rivers. In a word, the science of physical geography has been developed in a way even Bacon never dreamed of.

The ancients were in the habit of personifying the sciences and arts as celestial beings: "the golden brood of great Apollo's wit," as Spenser calls them. They are represented as the children of Zeus and Mnemosyne—of Zeus the founder of law and order, the supreme wisdom, the bright and stimulating force of Nature, and Mnemosyne, the faculty of Memory. Such were the Muses, the offspring of the Divine Wisdom and the Memory of Man. Now, if the Greeks had had our knowledge of the physical sciences on which the science of geography is based, can we doubt that they would have created a tenth Muse to preside over and personify them? Clio was the Muse of History:

Clio, the first of the celestial nine.

How shall we call the Muse of Physiography? When I reflect how geography is taught in schools I am inclined to think that the modern Muse had no father. There is nothing divine about her; she is the offspring of Mnemosyne, the child of Memory alone.

But even when imperfectly taught, when only a notional study, a mere effort of memory, geography is not wholly destitute of charm to most children. What is the magic wand that shall turn it into a fruitful and fascinating study? There is a pretty fairy-story to the effect that the spirit of the mountain stream appeared in the form of a beautiful maiden, and took up her abode with an old fisherman and his wife. Her artless ways and innocent whims and pranks endeared her to the old couple, but they felt instinctively that the sweet Pagan was not quite like a Christian child: she lacked a soul. Not until she had learned to love a mortal, till, by the power of sympathy, she had entered into the sorrows as well as the joys of human life, was the crowning glory granted her—an immortal soul. Under the imagery of this fable we may approach our subject to-night.

After speaking of the earliest attitude of observers of physical phenomena, the Lecturer continued:—It is perhaps (since most of the gods were tutelary deities of particular localities) more than a fancy, more than a metaphor, to suppose that the direct interference of the gods in early history was due to a dim per-

ception of the determining influences of geographical situation. You will recollect, in the Twentieth Book of the "Iliad," when Achilles has at last ceased to nurse his wrath and has returned to the war, that the gods came down to join in the battle, and not only the gods but the rivers and "nymphs of clear fount or shady grove" and the sea. There was thunder in heaven, the sea shook the earth, and

> Spring-abounding Ida quaked and rocked
> From her firm basis to her loftiest peak.

Observe that this was not a battle like that of the rebel angels in "Paradise Lost." They "pluckt the seated hills," and flung them about, using them as missiles. In Homer, it is the hills and rivers themselves that fight:

> And Vulcan met the mighty rolling stream,
> Xanthus by gods, by men Scamander called.

Let us take an instance from modern history. Montenegro is a little principality on the coast of the Adriatic just above Turkey. Its population is not numerous, but this handful of people have defied the Turk for four hundred years, and successfully defied him. Why has Montenegro been able to do what Bulgaria could not do, what Armenia cannot do? The answer to this historical question must be given in terms of geography. A physical map will show that Montenegro is a mass of rock some 2,000 to 5,000 feet high. Now, we are told that the Welsh mountaineers were enabled to defy for some time, though not permanently, the armies of Edward I. Why did they fail, while the Montenegrins have succeeded? Partly because Montenegro is not only a mountainous country, but a country of limestone, barren and waterless, so that an invading army can procure neither food nor drink. This geographical fact remains, and perhaps may contribute to the settlement of the Balkan Peninsula.

History and geography are therefore not sister subjects, but rather two facets of one jewel, two aspects of one and the same investigation. As a political being, as the founder of states, as a lawgiver, as a founder and professor of religion, in some respects as a moral agent, man is conditioned by his environment. His industry is determined by what he can take out of the earth or profitably put into it. His commerce is settled for him by his situation. He boasts that he has overcome the powers of Nature. Man no longer "goeth forth unto his labour until the evening." Gas and the electric light enable him to work double shifts. He can draw out the sting of the lightning and utilize the force of the cataract. The sea is his high road. By transmuting the materials he takes from the earth he can transport himself to incredible distances in a short time, or blow his foolish self into a thousand atoms. But he is still conditioned in much the same way as ever by geographical facts. At the present moment the greater part of the civilized world would like to stay the hand of one of the cruellest persecutions of a race and a religion that has ever been known. Why cannot they protect Armenia? Because of the geographical position of Constantinople.

In our schools we divorce our history and geography. We teach them at separate times, sometimes by separate teachers. Yet we know better. If we go abroad we always take a "Baedeker" or a "Murray." Some of us take ordnance maps when we go into the country. And we have been taught better. Some modern historians, as Macaulay, Freeman, and Green, have given excellent models of the right way to teach history. Even the older historians were quite aware that

HISTORY IS BASED ON GEOGRAPHY.

I will not stop to refer to the Greeks nor to Cæsar, though the first words of his "Commentaries" are geographical, but turn to our own chroniclers. Bede begins his "Ecclesiastical History" with a description: "Britain, an island in the ocean, formerly called Albion, is situated between the North and the West, facing, though at a considerable distance, the coasts of Germany, France, and Spain. It extends 800 miles in length towards the North, and is 200 miles in breadth," and so on for several pages. And so with Ireland, a country which "in wholesomeness and serenity of climate far surpasses Britain; for the snow scarcely ever lies there above three days." In that happy land he says: "No man makes hay in the summer for the winter's provision. . . . No reptiles are found there, and no snakes can live there, for, though often carried thither out of Britain, as soon as the ship comes near the shore, and the scent of the air reaches them, they die."

Our poets, too—who are a kind of historians—feel the necessity of basing history on geography. Shakespeare, it is true, has a fine contempt for geography (he gives Bohemia a sea-coast), but then he has an equally fine contempt for the mere facts of history. But think what use Milton makes of geography. "Paradise Lost" cannot be properly understood unless we know that our earth is the centre of the created universe, that round it whirl the spheres carrying the planets and fixed stars, that the outside shell of this universe is the "Paradise of Fools," where Satan lands after his voyage through Chaos, and that Hell lies outside at a distance of three times the radius from Earth to the circumference. Our practical men feel it, too; if you go into a law-court you may sometimes see the judge poring over a map with a witness on the bench instructing him. An interesting story is told of Macaulay, who did much to enlarge the proper bounds of historical method. When a little child, he had a garden, the delimitations of which were marked by oyster-shells. One day the servant pulled them up and threw them away, whereupon the child marched into the drawing-room, where there was company, and said, solemnly: "Cursed be Sally, for it is written, 'Cursed is he that removeth his neighbour's landmarks.'" Let us learn from the sad fate of Sally to respect landmarks. But how are we to know our historical landmarks? The old plan was to give out lists of names and have them committed to memory; lists of capes, islands, mountains, with their heights, rivers and their tributaries. This plan is now discredited. I was told recently by an inspector of schools that it has not been known in these islands for fifteen years. Now that is interesting. Whether it is to be taken as an exact statement of fact or not I do not know. There is, however, no doubt that the character of geography text-books has lately greatly improved. Several modern geographies contain admirably clear chapters on physiography, dealing with such subjects as the distribution of land and sea, winds, currents, rain, climate. There is a tendency, also, to publish maps in them, and especially physical maps, and maps of particular districts, such as a river-basin, or a range of mountains. The appearance of such books is some evidence that the character of our geography teaching is improving, and that we are endeavouring to teach geography, not only through the memory, but also through the reason and the imagination; that we are trying to teach not names only, but things, and to turn our notional knowledge into real knowledge by bringing it to the test of experience. I welcome the introduction of the study of physical geography into our schools as the most important step possible to the improvement both of our geography and our history teaching. It must work as important a revolution in these studies as did the study of anatomy in the science of medicine or the art of painting.

GEOGRAPHY BY ROTE.

I am not sure, however, that we have quite abolished the practice of teaching geography through the memory. I am not sure that we ought altogether to do so. There are some things we must learn, and, after all, there is an advantage in a drill even in names. But there should be some discretion. We must learn the English counties; we need not learn the departments of France. It is useful to know the relative heights of the Himalayas, the Andes, the Alps, and Snowdon; it is not useful to learn the height of many individual mountains. To sum up this part of the subject, we may say that, while the study of the physical features of a country is essential to a right understanding of its history, a study of political geography becomes a basis for history teaching only when closely connected with physical geography. To take an elementary example: We cannot teach English history unless we can presuppose a knowledge of the situation of Flanders and Normandy, of Ghent, Calais, Rouen, Orléans, Bordeaux, Toulon, and Lyons. Such knowledge cannot be acquired only by the memory, not even by merely learning them from a map. To make such knowledge really available for history teaching, we must know something of the physical conditions that gave these places importance: for instance, how a position by a natural harbour, or on the bend of a great river or junction of rivers, or in a rich plain or fertile valley, and their relative positions with respect to England, Spain, and the Mediterranean, gave to some a strategic value, to others a golden opportunity of trade or manufacture.

A geography lesson never gains its full completeness till it is connected with the labour and the interests of mankind. There is, I admit, a charm to some minds in mere lists of names and in poring over a map to find them; but, as with Undine, not until the human element comes in does their study gain a soul. Our poets have recognised thus. The charm of much of Scott's

poetry lies in the combination of geography and narrative of human life. Remember how Milton combines them in his great description of the "Temptation":

Behold,
Where on the Ægean shore a city stands
Built nobly, pure the air, and light the soil;
Athens, the eye of Greece, mother of arts
And eloquence, native to famous wits
Or hospitable, in her sweet recess,
City or suburban, studious walks and shades.

Or turn to a modern poet and hear how he teaches the geography of Scotland:

How they had been to Iona, to Staffa, to Skye, to Culloden,
Seen Loch Awe, Loch Tay, Loch Fyne, Loch Ness, Loch Arkaig,
Been up Ben Nevis, Ben More, Ben Cruachan, Ben Muick-d'hui,
How they had walked and eaten and drunken and slept in kitchens,
Slept upon floors of kitchens, and tasted the real Glen-livat,
Walked up perpendicular hills and also down them.

Here we have a list of names with a vengeance! But how charming is their sound, and how interesting from the historical allusions to the Long Vacation ramble and the whisky!

What is a history-lesson without geography? A little bit of law, a little bit of policy, some treaties, battles, marriages, and executions, with the dates thereof, "characters" of the sovereigns, which, if a child believed them, would make him straightway a republican or an anarchist. Although dates are taught, the subject is practically taught without any realization of periods of time. It is a kind of educational lottery: the child learns a number of facts and a number of names. Teacher draws a name; child supplies appropriate fact. If fact fits name, well and good, but if not, child must learn it again. Hence the difficulties of an examiner. The two Pitts are inextricably jumbled. Wellington wins Blenheim and is dismissed for peculation. Mary Queen of Scots marries Lord Guilford Dudley and is executed on Tower Green. Or she burned the martyrs, but when Elizabeth came to the throne she had her executed. Or Elizabeth was jealous of her sister's beauty, and kept her in a damp dungeon for forty years, when she died of rheumatism and premature old age.

There was a person recently who called himself a professor, and earned a precarious livelihood by going up in a balloon and coming down on a parachute. I saw him occasionally when taking my walks abroad. It appeared to me that he symbolized this method of teaching history. Here is an historical human being removed from his proper surroundings, exhibited for a few brief moments in mid-air to our astonished intelligence while we learn his *date*—his *character*: "ingenious but rash"—his *profession*: professor of aerial gymnastics to the Royal Family—"*principal facts in his career*: he went up in a balloon, he came down on a parachute." *Exeat* historical character. That is the sort of teaching some children get about, let us say, Walpole.

Now, if you teach a child about a wolf, you will picture the snow-clad steppes or the forest primeval.

First, to each living thing, whate'er its kind,
Some lot, some part, some station is assigned.
The feathered race with pinions skim the air—
Not so the mackerel and still less the bear:
This roams the *wood*, carniv'rous for his prey;
That, with soft roe, pursues his *watery* way:
This, slain by hunters, yields his shaggy hide;
That, caught by fishers, is on *Sundays* cried.

Man alone is divorced from his surroundings. What wonder if the result is unsatisfactory, if children learn to hate geography and history! To a child taught on such principles all names are much the same. He can believe with Pope—

Heroes are much the same—the point's agreed—
From Macedonia's madman to the Swede.

How are we to improve our method? The answer seems to be that, since man is conditioned by space and time, we ought to consider his history under those conditions. In so far as we do this, in so far as we study history under the conditions of space as well as time, and geography under the conditions of time as well as space, shall we proceed on a really scientific method. Moreover there is no utility in these studies unless they be taught systematically, and on true principles.

Then they are invaluable in training the reason, the judgment, and the imagination of children. Let us, therefore, try to bring our studies of history under the conditions of space, and geography under conditions of time, and both under the tests of reason and experience.

Let us take some examples from the history of our own country. If we exhibit a map of the world as it was known at the time when Britain first came into notice, we see that it was a barbarous country because it was geographically outside the pale of civilization. Beyond the countries that then came under the government of Rome, beyond the uncivilized hordes that peopled the forests and plains of Gaul and Germany; cut off by the sea even from these; cut off from the religion, from the laws, from the trade of Europe, it was supposed to be a sort of Hades, the abode of the souls of the departed.

Now if we are going to trace how Britain was conquered by the Romans and the Saxons, let us not be content with giving the mere bare facts and dates, for this only produces notional knowledge, not real knowledge.

Let us take a blank map—a bare, empty, penny outline map—and put in first the rivers and mountains, next the fens and forests. Then we shall understand the difficulties of the conquest. And let us compare this unmade country with the unmade countries of our own times—for instance, with the backwoods of Canada.

Our busy England was then for the most part a wilderness of forest and fen. The British tribes dwelt in clearings, along rivers, valleys, or on plains; separated from each other by impenetrable barriers; where the wolf howled and the eagle screamed, and the wild bull and the wild boar wandered through solitudes that are now busy cities; and the wild fowl from the North built their nests on islands and marshes that are now fields of waving corn. A mighty fen then covered a district that extended from the Wash as far as Cambridge and Huntingdon, and almost as far as Lincoln on the west. "But neither moor nor fen covered so vast a space of Britain," says Mr. Green in his "Making of England," "as its woods. The wedge of forest and scrub that filled the hollow between the North and South Downs, stretched in an unbroken mass for a hundred and twenty miles, from Hampshire to the valley of the Medway." This was the *Andredsweald*. Another vast forest extended from the Southampton Water westwards through Dorsetshire, and northwards round to the Wiltshire Downs. The Severn flowed through vast forests that reached from Worcester to Cheshire. Warwickshire was nearly covered with woods. In the East, forests ran from London without a break to the Wash. In the Midlands were many forests such as Rockingham and Charnwood and Sherwood, now well-nigh vanished. The North was even wilder—we hear of the "desert" that extended from the Peak of Derbyshire to the Roman wall, and from the wall to the Forth. The whole lowlands of Scotland were a wilderness.

Next let us put into our map the chief Roman towns, and find from the significance of their names, and from their locality, reasons for their growth. Next let us draw the Roman roads, and show from the physical map why they took the directions they did. When we come to the Saxon conquests this map will be very useful. We shall understand why the process of conquest lasted two hundred years; why the various settlements, isolated from each other by natural barriers, grew into kingdoms; why Kent became more powerful than Sussex, and why the earliest leading kingdom; why the East Angles, protected by the fens on the West and North, and forests on the South, long maintained a freedom from absorption. We trace the steps by which the Britains were driven westwards; we can see how the southern Saxons, creeping along the valley of the Thames, were finally able to break the power of the Celts of the West, and separate those of Devon and Cornwall from those of Wales, by the great battle of Deorham; and how the Angles of the North, bursting at last through the dense Midland forests and over the Pennine Hills, were able, at the great battle of Chester, to separate the Celts of Wales from those of Strathclyde.

To turn to another subject. The conquered races were driven westwards—driven to the mountains of Wales and Cornwall and the North. A line drawn from the Humber to the British Channel roughly marks off the land of the old people from the land of the new, of the Pagan from that of the Christian, of the conquered from that of the conquerors. It would be surprising if this had no effect on the subsequent history of the country. It had the greatest effect.

In all the great civil wars, between Matilda and Stephen, Henry III. and the Barons, York and Lancaster, King and Parliament, and in the rebellion of the Pretender, it is always the North and West that take the side of the old *régime*, the South and East the side of the party that represents

TRADE AND COMMERCE,

new men and new ideas. This is no accidental circumstance—it grows naturally out of the previous history, which we have

seen was determined by physical conditions. In the eighteenth century and nineteenth century a wonderful transformation occurs. Owing to the introduction of machinery, and the working of coal and iron fields in the North and West, the great manufacturing centres of Wales and Lancashire and Yorkshire and Northumberland grew up. North and South, East and West, changed sides, like cricketers when "over" is called. This was due chiefly to the geological structure of the land; it has the most far-reaching political consequences.

Take another subject. The two dominant factors in the history of England are her trade and her supremacy at sea. Nearly all the wars of England have been due to a desire to shut up the shop of some rival trader. From the great wool war (the Hundred Years' War) to the Opium War of our own day trade has been the cause of nearly all our wars, and the expansion of trade the cause of nearly all our colonization. Yet the history of our trade and of our Navy, by which alone it could be protected and extended, is ignored or only treated incidentally in our school histories.

Take a map of the world after the discovery of America. England is now not outside the pale of civilization. She is the very centre of the earth. Through the middle ages Venice and Genoa were the chief depots of Eastern trade. A map of Europe will show why the trade of the Black Sea, and of the great trade routes across Asia Minor from Persia, and up the Red Sea and across the Suez isthmus, all centred in those Italian cities, which naturally became the great carriers of goods to all countries, including England. But when the Cape of Good Hope was doubled all this fell into decay. Look at the map and you will see that England then was in the most favoured position. Though these goods were at first received chiefly by Portugal, it was England who distributed them.

Now the cutting of the Suez Canal has destroyed the Cape trade, and caused a curious reversion to the old type, which may have important consequences to us. But consider what possibilities were opened to England when she became the natural port of all the trade of the East, and, later, the West. If that is not the most important fact in her history it is the most important one in her development. Her rivals were Spain, France, and Holland. What enabled England to beat these countries?

All four countries are advantageously placed for trade. All have harbours on the West, from which ships can sail direct to the great republics of the West. France and Holland are connected by land with the rest of Europe: England and Spain have harbours on the East, on the North Sea and the Mediterranean respectively. How is it that England has beaten these countries in the carrying trade, in commerce, in colonization?

In the sixteenth century Spain was the mistress of the sea and the terror of the world. Less than a hundred years later Spain had ceased to alarm us: the Dutch guns were bombarding us in our own river. A few years later the Dutch sea-power had passed away, and England and France were left to dispute the sovereignty of the globe. If we try to solve the problem without the aid of geography we find it confusing. Many causes contributed. Religion urged us to wrestle with Catholic Spain, but it did not prevent us fighting Protestant Holland with equal vigour. A desire to secure the silver that went to Spain, the pepper and spice trade of the Dutch East Indies, the sugar and slave trades of the French Mississippi, and the furs of French Canada, and above all, the privilege of transporting these goods to other countries—these were the leading motives that influenced us. But why were we able to succeed while the others failed or comparatively failed? Let me point out a few of the geographical conditions that contributed to them. If you look at the map you will see that Spain and England were bound to depend for their success abroad wholly on their navies, for Spain, shut off by the Pyrenees from Europe, was practically as much an island as Britain.

Moreover, Spain, like England, had dependencies far away. Philip II. was the ruler of Mexico and Peru and most of the islands of the West Indies; he was the master of the Netherlands, Sicily, Milan, Portugal, and some parts of Africa and the East Indies. Distant dependencies require great expenditure, but when these dependencies happen to be in parts of Europe and are constantly revolting, or being coveted by other nations, the expense is overwhelming. Thus the possession of the Netherlands and parts of Italy was a source of serious embarrassment to Spain as soon as her resources began to be crippled. What did cripple her resources? Surely Mexico and Peru and the West Indies were rich enough to keep her going? Yes, if she had utilized them. But the Spaniards were a proud race—too proud to trade. They despised commerce; they developed no industries at home or in their colonies; they drove out the Jews and the Moors, who were the most enterprising of their people. Silver and gold were all they cared for. Their policy was wholly directed to the acquisition of the precious metals. The moment the supply of them could be cut off, the power of Spain collapsed, She had nothing to fall back on.

Thus the geological formation of South America and its great distance from Spain, the possession and the expense of keeping possession of the Netherlands were respectively among the sources of Spain's rise and of her fall.

To France was once made the most splendid offer that is recorded in history; by her great Minister Colbert it was seen that if France were to build up a great navy she might be mistress of the world. Such a navy he designed and in part formed. Fortunately for England, his sovereign preferred to try to be master of Europe. The geographical fact that France adjoins Germany and Italy by land turned her into a military nation first and a naval nation secondarily. We owe our naval supremacy largely to the fact that France was bounded by the Rhine.

Like Spain, Holland had no internal resources, though this was not the fault of her industrious people. She depended on her carrying trade. When this could be stopped Holland collapsed. Hence the objects of the Navigation Act and the Stuart wars. Holland's power fell when she could no longer support a navy strong enough to protect her mercantile marine. And this happened when Louis XIV. attacked her in the rear and forced her to starve her navy to protect her very life that was threatened by land. If the North Sea had flowed between Holland and France, or the Pyrenees had been established there, how different might have been the history of which we are speaking.

A glance at the map will show us also that England was not only favourably placed with respect to foreign countries, but singularly fortunate in the formation of her coasts. Look at her great inlets and estuaries—on the east the Humber and the Thames, on the west the Mersey and Bristol Channel. What a real light does even a brief sketch of the history of Hull, London, Bristol, or Liverpool throw on the industrial and commercial, and hence on the political, sovereignty of the country!

The Lecturer further remarked on the close relation of geography with military history, and added in conclusion:—Bring out the geographical situation by means of maps, and throw in a little local colour, and your geography and history will fuse into a living whole, or, to go back to our fable, Undine will gain the living soul through sympathy and imagination.

The CHAIRMAN said the lecturer had expressed a doubt as to whether teachers would find it practicable to deal with the subject in the way he had suggested, without placing themselves at some disadvantage with regard to examination results; and this no doubt would be the case. Examinations presupposed text-books, and the text-books were nearly all written on the assumption that there was no connexion between geography and history. As long as the text-books kept to the old plan it would be extremely difficult for teachers to change their method, unless indeed they were prepared to do without text-books altogether, as some might be disposed to suggest. There was something to be said for this latter suggestion, and, if teachers were willing to do the extra work required, they might no doubt succeed in the long run in carrying out the lecturer's idea; but school time was limited, and many were content to keep to the easier methods which had served them hitherto. It was true that the recently published geographical and historical reading books recognized the connexion between the two subjects, and would be found helpful, but much remained to be done in this direction before the necessary provision could be made. The use of the lantern for teaching purposes was on the increase, and no doubt could be employed with effect in the teaching of historical and geographical facts; but there was this difficulty in the way of lantern illustrations in the school-room, that the room had to be darkened, and under the cover of darkness the bonds of discipline were apt to get relaxed. For the better appreciation of geographical and physiographical facts, the use of modelling had been suggested, but this could hardly be employed with effect beyond the very elementary stages. It had been pointed out that England's isolated geographical position favoured the commercial development of the country, freeing us as it did from the danger of invasion to which Continental communities were exposed, and it would be readily seen how this fact was related to the subject of the lecture, and to how large an extent the course of England's history was governed by her geographical position. The method of the teaching would, however, necessarily be determined by the age of the taught, and the plan recommended could hardly be adopted with advantage in the case of very young pupils.

Miss ANDREWS suggested whether history did not require a different

kind of treatment from that which would be applicable to the study of geography, in view of its relation to human life and its issues, and to moral and religious considerations.

Miss CROMBIE mentioned the result of her own experience in bringing home to her pupils the facts of history by making them acquainted, as far as possible, with the places where the events had occurred. She also remarked on the use of pictures of historical events and of geographical facts in fixing the pupils' attention, and stirring up a genuine interest in the subject of study.

After a few remarks by Mr. CHARLES on the points raised by the speakers, a vote of thanks to the Chairman concluded the proceedings.

AN OXFORD DON ON TRAINING.

(*From a Contributor.*)

THE following document is worth reprinting and preserving for the benefit of posterity. It will show our descendants the sort of opposition that schoolmasters had to contend with in the year of grace 1896 in their efforts to create a teaching profession, and to associate the older Universities with those efforts. It must be premised that the "proposed statute" had been drafted upon principles approved and amended by the Council of the University, and then submitted to Congregation, who also gave it their sanction—in spite of the opposition of Professor Case and his followers. The statute was then submitted to Convocation, as the outer circle of members of the University, not to be discussed or altered in details, but to be either rejected or accepted as a whole. The first three questions, therefore, while likely enough, from the Professor's standpoint, to excite the prejudice of the narrow-minded, had really been settled in Council and Congregation, and did not affect the principle of the statute as voted upon on November 24.

QUESTIONS FOR MEMBERS OF CONVOCATION

REGARDING THE PROPOSED STATUTE FOR TRAINING OF TEACHERS.

Tuesday, November 24, at 2 o'clock.

1. Do you consider that members of the University studying for the public examinations of the University should have to go down with "others" to the Delegates of Local Examinations for training and diplomas of fitness to become schoolmasters at our great public schools?

2. Do you think it morally right for the University to give to the Delegates of Local Examinations a power of spending on members of the University funds extracted from candidates in Local Examinations who are not members of the University?

3. Is it desirable to enlarge the powers of these Delegates; and yet, if they are once allowed to give the proposed teaching diplomas to members of the University and "others," will they not want to give a degree or certificate of general attainments as well as the teaching diploma to "others," in accordance with the recommendations of the Commission on Secondary Education, but to the confusion of University degrees?

4. You are aware that the Commission on Secondary Education recommends the Government to enact that nobody is to be registered as a teacher without a teachers' diploma, and nobody is to be a teacher without being registered. Would it, then, be fair to the undergraduates, advantageous to the colleges, or wise of the University, to pass this statute tempting the Government to make it necessary and compulsory for members of the University, over and above the exercises for a degree, even with honours, to undergo for a diploma further training and examination, involving additional time and expense, before they can become schoolmasters?

5. If the statute is passed, might not headmasters also be tempted to enforce the diploma; and do not the contemplated arrangements for training in a school with a view to the diploma invite headmasters to employ members of the University as probationers in pursuance of their own suggestion to the Commission—but without a salary, or even with a premium?

6. Do you seriously believe that Oxford Bachelors of Arts, according to their different qualifications published in the Calendar, are not already qualified enough to be selected by headmasters for masterships in schools?

THOMAS CASE.

November 20.

Detailed comment is superfluous. Let us, however, not fail to notice the superb conceit of the "University man" displayed in the first and last questions. "Actually," cries out the Professor, "you are contemplating examining an Oxford man, a member of the University, with other people!" True they are to be examined by competent examiners under the orders of a delegacy composed of the *élite*, but this will scarcely wipe out the disgrace! True also that public-school men have submitted to such an indignity at the hands of the Cambridge Teachers' Training Syndicate; but then Oxford is not Cambridge. Question 2 raises a topic of special interest to the College of Preceptors, for this is precisely what the College is doing with its spare profits just now. That, of course, is anything but a precedent for Oxford, but the fact is that the Universities have more than once adopted a policy which the College of Preceptors had anticipated.

Now, if the profits from examinations were very large, there would certainly be a reason for reducing the fee charged to candidates, but, if there is only a small margin of profit available from each, which a reduction in fees would convert into a loss, then it seems especially appropriate that the margin should be dedicated to an object which directly aims at improving the instruction imparted to candidates.

Question 3 shows that the Professor does not understand the recommendations of the Commission. There is no reason why he should understand them, if he would only keep quiet; but he poses as the representative of a University which exercises an enormous influence over secondary education, and which summoned a conference on the matter in 1893. Question 4 is pretty and ingenious, but it greatly exaggerates the importance of Oxford's action in this matter. It ignores entirely the Report of the Select Committee of the House of Commons in 1891 (probably Professor Case never heard of it!), which had the impertinence to inquire and report into this matter without consulting Oxford at all. This question, along with the last, shows that the Professor is quite unaware of what is going on in our secondary schools. Raw Oxford graduates are by no means welcomed with open arms, merely on the strength of their degree. There are hundreds of headmasters who refuse to appoint such men; they expect them to gain experience, where they can, in inferior schools, before they are admitted on the staff of good secondary schools. The Oxford University Appointments Committee could surely have put the Professor right on this matter, if he had consulted it before printing this fly-sheet.

In Question 5 one sees that the Oxford don has heard some faint murmur of what is passing in the world outside. Headmasters are evidently dangerous and selfish persons, who must be saved from possible temptation by the kind forethought of college dons, who, in Question 4, are urged to consider what is "advantageous to the colleges."

Would it, one wonders, be considered by the Professor to be fair, advantageous, or wise, to add a question to his list, which may provide food for reflection to the don, the headmaster, the Government, and the Oxford Bachelor of Arts—

"7. Do you care one straw for the boys in our secondary schools, whose mental and moral salvation is, at bottom, the one question at issue?"

We have evidence that the Government, the headmasters, and some Oxford Bachelors of Arts are alive to the importance of this final question, but we "seriously believe" that it has never entered into the thoughts of Professor Case, or of those to whom his arguments appeal. On the 26th a report of the debate in Convocation on the statute appeared in the *Times*, and the speeches of the opposition, supported by seventy-six votes, compel one to the belief that there are many resident Oxford tutors who are incompetent to execute the authority in secondary education which they claim, and which public opinion has up till now entrusted to them. Fortunately the majority of eighty-eight votes which carried the statute shows that there is a more enlightened party seeking to guide the action of the University. We wish them all success.

We have employed strong language in commenting upon the policy and views of Professor Case, but we are convinced that Oxford men will not quarrel with us for bringing the light of broad educational opinion to bear upon an issue which concerns not only the reputation of the University, but the politics of the day in secondary education.

UNIVERSITIES.

(*From our Correspondents.*)

Oxford. THE Delegates of Local Examinations have begun to consider a scheme for the examination and training of teachers for secondary schools, but nothing has yet been published. The first examination is to be held in 1897, and the syllabus will therefore be issued as early as possible next term. It seems likely that the qualification for admission will be fairly high, and the period of training correspondingly short, and it is hoped that part of the latter may be carried on

at a school of the same class as that in which the candidate is expecting to teach, and under conditions not unlike those in which he or she will be placed after the training is completed. A good many men in Oxford are sceptical as to the advantage of training when a young man has received a public-school and University education. Similarly, many schoolmistresses prefer the untrained University woman to the teacher who has passed through the somewhat formal and uninspiring course of the training college; but there is no doubt that something of the nature of apprenticeship under a capable head who has a gift for teaching teachers, would be of great value, and do something to prevent the false starts which may seriously affect a young teacher's career. Oxford is not the best place for this sort of training, though it may suitably be organized there. The theoretical work can, however, best be provided in Oxford itself, in connexion with the Schools of Literæ Humaniores, History, and Natural Science, and a certain amount of practical instruction may well be provided. As far as women teachers are concerned, it is much to be desired that they should be put on the same footing as men. The Cambridge examination, with its low entrance qualification, does very well for the non-University woman, but something else is wanted for the teacher of special subjects, and we are more and more feeling the necessity of having in our high schools not only women who are qualified to teach the lower forms, where educational problems are more pressing and a knowledge of many subjects is more useful, but also those who can take higher work and prepare picked girls for the Universities.

The term has been singularly barren of legislation. The statutes dealing with the degrees in music have been revised and made more specific, and the office of Coryphæus is to be abolished. A proposal to remove the Chantrey Collection of Casts to the old Ashmolean elicited a strong remonstrance from Bodley's Librarian—who maintained, *inter alia*, that the building was promised to the Bodleian when the new Ashmolean was built—and produced a long and somewhat tedious debate, ending in the defeat of the decree. It seems a pity that a fine room should be closed to the public, and used merely for the storage of books; but there was a suspicion of bad faith about the proposal, as regards both the Bodleian and the conditions on which the casts were accepted. The claims of the Bodleian have, not unnaturally, greater weight in Oxford than those of the classical archæologists. The University is fortunate in securing the services of Mr. T. W. Jackson as Curator to the Hope Collection of Engraved Portraits. The collection is little known and somewhat cramped for space, but Mr. Jackson will probably be able to arrange for the exhibition of portions of it in the University Galleries.

The Association for the Education of Women has issued its report for the last year. It is fuller than usual, as it contains separate reports of the different committees, and details of the agitation for the B.A. There are at present 198 students on the books, a few of whom are not actually in residence; 167 University and College lecturers admit the students to their lectures. The balance sheet shows that during the past year over £800 was paid to the lecturers and over £2,000 in tutorial fees. For lectures arranged by the Association nearly £800 was paid. It is pretty plain that we are not likely to hear serious suggestions made that the presence of women students at the University is a mistake, especially when it is remembered that in the case of College lectures the fee received is quite out of proportion to the additional labour involved. The position of women students is rendered pretty secure by these fees, and it rarely happens that a lecturer refuses to open his lectures to them. St. Hilda's Hall has been admitted to representation on the Council of the Association, and Mrs. Bryant has been elected a member. Her knowledge of secondary education will be specially valuable at the present time, as the work Oxford is doing for woman's education is being better organized and more widely known.

The London papers have already given sufficient notoriety to the *Isis* incident, and athletic news must be sought elsewhere, but the impending performance of "The Knights" of Aristophanes by the O.A.D.S. may, by a stretch, be considered educational.

The examiners for the Ireland and Craven Scholarships have issued the following award:—Ireland Scholar—Harold E. Dale, scholar of Balliol. Craven Scholars—Frederick H. Williamson, scholar of Balliol; Harold T. Baker, scholar of New College; Leslie H. S. Mathews, scholar of Balliol. *Proxime accesserunt*—Clement A. A. Du Pontet, scholar of Trinity; Ernest Barker, scholar of Balliol. Distinguished in the examination—Roland V. Vernon, scholar of Balliol; Bertram P. Moore, scholar of Balliol; Ernest E. Genner, scholar of Balliol; Cecil Clementi, demy of Magdalen. It is worthy of mention that five of these ten came up from St. Paul's School—Messrs. Dale, Matthews, Du Pontet, Moore, and Clementi.

Cambridge.

The calm of the early portion of the term has been succeeded by a series of thunderstorms, but the academical air is once more clear. Various reports have been presented and discussed, and a final decision has been procured on several weighty questions which had been before the University for a considerable time. First and foremost, the outcome of the Conference on Secondary Education led to a report of the Council. This report stated the well-known fact that a conference had been held in April, 1896, at which representatives of the chief educational institutions and authorities in the kingdom had been present; that resolutions had been adopted by such conference either *nem. con.* or by very large majorities. The report asked the Senate to forward a memorial to the Chancellor of the University reciting the facts and the resolutions passed at the conference, with a further request that the Chancellor should represent to the Government the importance of introducing at an early date legislation bearing on secondary education.

Some little opposition was threatened, on the ground that the University, as a body, had not had any opportunity to express its views on the subject; but this only provoked the obvious answer that the University was not sending a statement of its own views to the Chancellor, but was remitting a report of a conference of experts held within its precincts. The Senate adopted this view by a majority of more than two to one in a crowded house. It is a curious fact, also, that there is practically no way in which the University can, *sua sponte*, express its views on such a question. The forms and procedure at present established render it impossible for any views to be expressed except upon definite propositions put forward by the Council, the movement of amendments by independent members of the Senate not being allowed. As a rule, this fact does not produce hardship, as the Council frame their graces so as to procure a decision on the most important points actually at issue at the moment. The system, though a bad one, is rendered workable by the skill of the engineers in charge.

The University is now considering a scheme for old-age pensions, the necessity for which has been made more manifest during the past two or three years; fortunately, most of the recent appointments have placed young men in the important chairs. A more difficult question comes up for solution in the case of University employees. Among these is every variety of tenure. At present every case is considered on its merits, and hardship rarely occurs; but it is thought wiser to guard the University against sudden and inconvenient calls upon its impoverished resources.

The great question of the erection of the Sedgwick Memorial Museum has practically reached its final stage. For many years the housing of the geological collections has given rise to acrimonious debates, and those of the present term have certainly not been less keen than those of previous years. In June, 1891, a site on the old Botanic Garden area was assigned for the new museum, but, since that date, the University has acquired, at a large expenditure, a commanding and convenient site on the other side of the road in the grounds of Downing College. The geologists cast envious eyes on this place, and, after innumerable wranglings from the opposition, the Council intervened, and put the matter before the Senate for their decision. The result was universally anticipated, and, by an overwhelming majority, the members of the Senate gave Professor Hughes that for which he asked. There is little doubt that the Professor has won this victory by his unfailing tact and courtesy, manifested under trying circumstances. It is to be hoped that now all will go smoothly, and that the new building will be, both from an architectural and a scientific point of view, a credit to the University.

The establishment of the new Professorship of Mental Philosophy and Logic has also given rise to a complication. The professorship was declared to be a necessary one by statute, and its endowment was only to be postponed "till sufficient funds can be provided from the common University funds or from other sources." The Financial Board were of opinion that £500 a year was the maximum amount which the University Chest could provide. Dr. Sidgwick, the Knightsbridge Professor of Moral Philosophy, promptly stepped into the breach, and suggested that his own stipend should be reduced by £200 per

annum for the benefit of the new chair. While these negotiations were in progress, the Professorship of Surgery fell vacant by the lamented death of Sir George Humphry, who had been holding his chair without stipend. The Financial Board were of opinion that, if the Chair of Mental Philosophy were established, the maximum amount available for the Chair of Surgery would be £300 a year. Upon this, a grace was proposed to suspend the appointment to the Professorship of Surgery for one year. Various arguments were brought forward, none of which, it may be noticed, appeared adequate to any member of the teaching staff of the Medical School. To cut a long matter short, the Senate, by a large majority, has decreed the immediate establishment of the Chair of Mental Philosophy, and, as a corollary, has suspended the appointment of a Professor of Surgery. The result to the University is that the Medical School, the one department which is a credit to the University, is deprived of the services of a working head in one of its most important studies. Added to this, we have the fact that the Professor of Pathology is seriously ill, so that the Medical School is severely handicapped. If it acts up to its traditions, it will, however, come out of all its trials with success.

Fresh changes have been made in the Theological Tripos, in spite of the opposition of an important party of Churchmen who wish to introduce more dogmatic theology into the examination, and a new proposal is also made to divide the Historical Tripos into two parts to bring it into line with the other Honour examinations. This proposal will probably find favour with the Senate.

The General Board of Studies have made a very wise suggestion with regard to the maintenance of standards in the various poll examinations. It is now proposed that all examiners for poll degrees shall make full reports to the Board of Examinations, and so secure the perpetuation of testimony as to the standards adopted and the general principles upon which the examiners have acted. This report shows that the University is resolved to profit by its own experience in the case of the Local Examinations; whether the permanent staff of the Board of Examinations, as at present constituted, will be able to cope with the task is another matter.

The following are the chief personal items of the month:—Crosse Scholarship: W. L. E. Parsons, B.A., late scholar of Pembroke College. Arnold Gerstenberg Scholarships: C. S. Myers, B.A. Caius; A. G. Tansley, B.A. Trinity. Walsingham Medal: W. McDougall, B.A. St. John's. Seatonian Prize: G. W. Rowntree, M.A. Clare. Jeremie Septuagint Prizes: S. A. Cook, B.A. Caius; E. W. Winstanley, B.A. Trinity. University Lecturer in Physiology: L. E. Shore, M.D. St. John's. Demonstrator in Physiology: W. B. Hardy, M.A. Caius; Junior Demonstrator: H. K. Anderson, Caius. Additional Demonstrator (without stipend): A. Eicholz, M.A., M.B. Emmanuel.

London. A FURTHER vacancy in the Senate has been caused by the recent death of the well-known classical scholar Dr. Hubert A. Holden, whose health had been for some time previously in an unsatisfactory state. Dr. Holden served as Examiner in Classics for the five years 1869–74, and was appointed Examiner in Greek in 1886; but, before he had completed a second term of service, he was (on January 7, 1890) placed on the Senate by the Crown in succession to Dean Bradley, and so, under the charter, ceased to be an examiner. By the Senate he was appointed their representative on the governing bodies of St. Paul's School, Christ's Hospital, and St. Olave's Grammar School. He gave much useful assistance to the University; and among the minor services attributed to him are the Latin inscription on the base of the statue of the Queen on the main staircase of the University building, and a Latin address to the University of Halle-Wittenberg on the occasion of its second centenary in August, 1894; in which address he aptly forged a literary link by referring to Shakespeare's mention of Wittenberg as the place where Hamlet went to school. The Crown appoints to the Fellowship now rendered vacant by his death.

To the Fellowship that fell vacant several months ago by the death of Sir George Johnson, it was generally expected that Sir Joseph Lister, who was proposed for a Convocation Fellowship in June, but not elected, would be appointed: we learn that this appointment has now actually been made.

Since the close of the Bachelor Examinations, reported last month, the University has been busy with the numerous Honours examinations attached to them, and with the higher medical and other examinations. At the conjoint B.A. and B.Sc. Honours in Mathematics five candidates succeed, and two are in the First Class: the scholarship is awarded to Mr. F. W. B. Frankland, of Clare College, Cambridge, who obtained the Exhibition in Mathematics at the Intermediate Examination in 1894; the second candidate, Mr. L. N. G. Filon, of University College, is also up to the scholarship standard. At the conjoint Honours in Mental and Moral Science four candidates are through; but only one is in the First Class, and the scholarship is not awarded.

At the various B.A. Honours Examinations 12 succeed in Classics, 2 in the First Class: of these two, one, Mr. R. Mitchell Henry, of Queen's College, Belfast, is recommended for the scholarship, but is over the age limit; the other is a lady, Miss Eleanor McDougall, of the Royal Holloway College. In French 7 are through, 1 in the First Class, viz., Mr. Otto Waldvogel, a private student, who is recommended for the prize, but is also over the age limit. In German only 3 succeed, and there is no First Class. The reports on English and on History are still outstanding.

At the B.Sc. Honours, 16 (all that entered) succeed in Chemistry; 4 are in the First Class, and Mr. G. T. Morgan, of the Royal College of Science, is recommended for the scholarship, but he, too, is also above the age limit. In Experimental Physics 11 pass, only 1, however, in the FirstClass, viz., Mr. H. A. Wilson, of the Yorkshire College, who gets the scholarship. In Botany, only 1 candidate, Miss Harriette Chick, of University and Bedford Colleges, succeeds, and is in the Second Class. In Zoology 4 succeed, 1 in the First Class, but without the scholarship. In Physiology, out of 4 or 5 who entered, not one succeeds. The report on Geology is not yet posted.

The M.B. Honours Lists are, as usual, full and strong. In Medicine, 22 candidates succeed, 8 being in the First Class: the scholarship and first gold medal go to Mr. Walter Emery, of St. Bartholomew's and the Queen's Hospital, Birmingham, and the second medal goes to Mr. J. D. Russell, of University College. In Obstetric Medicine, 14 candidates are through—4 in the First Class; here the scholarship and medal again go to Mr. Emery, and the second medal goes to Mr. W. C. Wood, of St. Mary's. In Forensic Medicine, 13 candidates succeed—3 in the First Class; the scholarship is not awarded, but Mr. W. G. Savage, of University College, gets a gold medal.

At the further medical examinations, 32 pass as Bachelors of Surgery, and 8 as Masters in Surgery (five of whom were previously M.D.'s). 35 pass as Doctors of Medicine, of whom one, Dr. Alfred Salter, of Guy's Hospital, obtains the £20 gold medal, and another, Dr. F. G. Crookshank, of University College (who got the Scholarship in Medicine at the M.B. Honours of last year), obtains the number of marks qualifying for the medal.

Of what we may call outlying examinations, two reports have been posted. In the Scriptural Examinations, the earlier of which, this year, shows some signs of fresh life, 7 candidates (all that appeared) have passed, of whom three are in the First Class, and so severally obtain a prize of books to the value of £5; (to show that this examination is conducted "without prejudice" it may be mentioned that one of the prizemen is of the Jewish persuasion). At the "Further Exam." 1 candidate appeared, who also passes in the First Class and obtains a £10 book-prize. In the Examination for the Teacher's Diploma, 7 candidates (five being ladies) pass out of 9; and one of these, Miss Beatrice Edgell, B.A., of University College, Aberystwyth, is marked as having "passed with distinction."

GIFT BOOKS AND PRIZES.

III.

IN *Eileen's Journey*, by Ernest Arthur Jelf, M.A. (John Murray), we have a sumptuous fairy-tale, conceived on a new plan, and carried out in a manner befitting the ambitious nature of the scheme. Eileen is a girl who devours books of every kind; but, not satisfied with this, she wishes that she could get into a magic train which would carry her back up the track of time, to see things that had happened with her own eyes. Thereupon Titania grants her wish, and carries her off in the chariot of the Fairy Queen. And Eileen sees, one after another, the siege of Lucknow, the Duchess of Richmond's ball at Brussels, the Pilgrim Fathers and the outbreak of the war of Independence, Columbus, Michel Angelo, Joan of Arc, Haroun Alraschid, and many other historical scenes and incidents. It is a new way of dressing up old facts, and, if the twice-told tales detract a little from the interest of the fairy-tale, there is, at any rate, something of the opposite effect. One of the greatest attractions of this handsome and well-printed book is

the list of excellent illustrations, reproducing the work of the best painters and sculptors.

Men Who Win, or Making Things Happen, by W. M. Thayer (Nelson & Sons), is a thick volume of biographies and portraits, with a good introduction, showing how much of history is biography, and that "God created the world, but man must make its history." It is a helpful and an interesting book, containing the lives of George Stephenson, Thomas Arnold, Spurgeon, Bright, Whittier, Livingstone, Fremont, and others. *Bonny*, by Adela Francos Mount (same publisher), is a pathetic story of faithful friendship and championship. *Black Gull Rock, a Tale of the Cornish Wreckers*, by Morice Gerard (same publishers), is more exciting. It is well told and full of adventure, but quite suitable for young readers. *Jock o' th' Beach, a Story for Boys* (same author and publishers), is also lively and adventurous, and can safely be recommended.

Andrew Sargeant's Wedding, by L. T. Meade (Jarrold & Sons), well illustrated, is a simple story of an honest shop-boy, who comes up to London from the country, and drops at once into importance and romance. It is a good plot, and, of course, the author tells her story well.

Every Inch a Sailor, by Dr. Gordon Stables (Nelson), tells the story of Frederick Augustus Norval Gay, who wanted to be a soldier or sailor, who was fond of animals and fads, and who let the dust gather on his "Latin lexicon." In course of time he goes to sea, which he chiefly loves for its many opportunities of landing and seeing the world. This is a free and easy story, and it conducts its hero to the comfortable billet of a rear-admiral. *Harold the Norseman*, by Fred Whishaw (same publishers), is a well-told tale of Harold Hardrada, King of Norway, and is full of the adventures of this Norse giant, who died at Stamford Bridge much in the same way as his namesake and enemy died at Senlac. From Messrs. Nelsons, also, we have a pretty and pathetic story for children, *Squib and His Friends*, by Miss Everett-Green.

The Garden of Time, by Mrs. Davidson of Tulloch (Jarrold & Sons), is a fanciful and fancifully-illustrated tale for children—a tale of earth, air, and water, which we can recommend without reserve. *For Duty's Sake*, by M. Douglas (same publishers), brings together a number of stirring tales of noble lives, fully illustrated. It tells the lives of Shaftesbury, Nelson, Damien, Sister Dora, John Howard, and Sir John Franklin. From the same publishers we have *After Long Waiting*, by Ada Mary Rowley, a simple story of a sweet and serviceable girl. *Through their Spectacles*, by C. Lockhart-Gordon, is also from Messrs. Jarrold. It is described by its author as a retrospect of two lives, and is likened to "a cup of cold water." There is warmth in it, nevertheless, and the story is a good one. *The Inseparables* is a schoolboy story by Chilton Chalmers (Digby, Long, & Co.). It is another case of a boy under suspicion for cheating, and is fairly well told. *Aimée Furnis, Scholar*, by Katharine St. John Conway, published at the "Clarion" office, is a tender, sensible, Socialist story, full of good thoughts and aspirations.

An excellent book of fairy tales, of English production but universal application, comes to us from Messrs. Macmillan—*Little Wanderlin, and other Fairy Tales*, by Annie and E. Keary. They have all the simplicity, inconsequence, and inevitableness which such stories ought to have. We are glad to welcome this little volume from the two writers, who have charmed thousands of readers before, and will certainly charm all the children into whose hands these stories may come.

In *The Children of Melby Hall*, by M. and J. M'Kean (Chambers), the superabundant liveliness of a household of motherless children is checked and quieted by periodic tales about beavers and maple sugar, spiders, and the like, told by a governess who has a turn for natural history. The combinations of story and stories is perhaps a little forced, and it may be that our own children will prefer the episodes of mild naughtiness that enliven, even if they do not relieve, the tales of the worthy teacher. There are some pretty pictures in the book.

Chorister Jim, by Bingley Noel (Jarrold & Sons), is a touching story of a Yorkshire choir-boy. Doomed to an early death, he found friends in his need, and had a glimpse of cheerfulness before the end came. *Hard as a Nail, or Jubal Spurge's Bounty*, by Frederick Langbridge (same publishers), is readable. It tells the story of the softening of a hard heart, and the righting of a wrong. It is a tale of humble life, but it turns on the destination of forty thousand pounds, and goes to the tune of Christmas bells.

In Messrs. Hachette's "Bibliothèque Rose" we have three pleasant domestic stories of French life—*Le Manoir des Boishaël, La Chance de Jeanne*, and *Les Grandeurs de Sophie*, by Madame Cheron de la Bruyère, the Comtesse de Vareppe, and François Deschamps respectively.

We have also received *The Lincoln Stamp Album* (W. S. Lincoln), the eleventh edition of a well-known spaced collecting book for foreign, British, and Colonial postage stamps, with index, maps, and printed descriptions. It is a very welcome present for boys who are given to laying an embargo on the correspondence of their friends.

REVIEWS.

Some Public Schools.

Great Public Schools. By Various Authors. (Edward Arnold.)

The plan of this book is very inconvenient, or—to speak more strictly—the book is without a plan of any kind. It consists in part of articles that appeared in the *English Illustrated Magazine*, in part of chapters written, it is to be presumed, to fill up the volume. The old articles have been submitted to their authors for correction, and the reader may judge of the notions of correctness entertained by the authors from such excerpts as the following:—"On Dr. Kynaston retiring in 1888 from Cheltenham, he was succeeded by the present Principal, the Rev. H. A. James." "In writing about water, I think I ought to mention that though we have no boating river at Rugby, yet among rowing Old Rugbeians are conspicuous the names of Mr. J. C. Gardner and Mr. A. S. Duffield, who rowed last year stroke and five in the Cambridge boat." One rubs one's eyes and wonders whether the author knows what year this is. The fact is, many of the papers were written several years ago, and have not been brought up to date. The correctness of the following, from the article on "Athletics at Eton," is of a different and quite original order: "Any fifth-form boy not picked up in regular games find their consolation in 'Refuse' games, sometimes as many as three in number." This is no unfair sample of the writer's style; and if, as we presume, he received his education at Eton, we may well credit the Hon. Alfred Lyttelton's statement, contained in the next article, that at Eton "the standard of general industry is not very high."

Four articles are devoted to Eton, three to Harrow and Rugby, two to Cheltenham, and one each to Charterhouse, Clifton, Westminster, Marlborough, Haileybury, and Winchester. We can discover no reason for this disparity, other than that the book obviously belongs to the noble army of pot-boilers. A book on the great public schools, well planned, well written, and as ably illustrated as is the amorphous volume under notice, would be of real service; but here we have little more than a disorderly collection of stale magazine articles. The schools are not treated in the same manner, for while a tolerably complete account is given of Eton and Harrow, including the school life of the present day, Mr. Frederick Gale's interesting and almost pathetic reminiscences of Winchester, as it was quite half a century ago, form the only record of William of Wykeham's school, while the historical sketch with which Westminster has to be contented seems to be almost ten years old.

The best things in the book are Mr. Alfred Lyttelton's "Eton as a School" and Mr. P. M. Thornton's "Early History of Harrow." Much space is devoted in other chapters to school athletics, but the papers on that subject are so indifferently written that what should be of the widest interest is perhaps the dullest part of the volume. Mr. Lyttelton's defence of the Eton system—the self-reliance that it produces, the autonomy that it encourages—is vigorous and complete, and after reading what he says and marking what he does not say, we are inclined to conclude that for the morally and intellectually strong boy an Eton education is a good thing, but we should feel anxious about the results of the system that he describes on a weakling. He, perhaps, attributes rather too much of the success of Etonians in life to Eton. We should suppose that birth and wealth count for something. It would be strange if from among one thousand boys taken from the best English homes, with wealth and influence to back them, many did not rise to be men of eminence. Nevertheless, the results of the self-government encouraged there do, no doubt, count for much in after life. Mr. Thornton, in his entertaining chapter on the history of Harrow, mentions the fact that the famous Duke of Chandos, Handel's employer, was treasurer of the school. We have observed with regret that the last relic of that magnate, Canons Park, is at this moment advertised for building plots.

The chapter on Rugby from 1567 to 1842, by "Tom Hughes," is too slight to be of much value, but it gives an interesting glimpse of Arnold's *régime*, and shows that even his rule had possibly its weak side. "Rugby from 1842 to 1891" is so much behind the time as to be positively misleading, as the following example will suffice to show: "Though the name of the late Bishop Philpott is no longer to be found in the list of governors, the names of Lord Norton, Canon Evans, and last, not least, the present Chancellor of the Exchequer, are still to be found there." The style of this chapter, again, is so slip-shod as to produce at times ambiguity of meaning, as when the writer says that "at

no time in the school's history has the present work been harder, the promise of the future brighter." Much better done are the chapters on Marlborough and Haileybury, in both of which due stress is laid on the rapid development of each of these schools in quite recent times. It is, indeed, startling to reflect that it was only in 1806 that the East India Company's College—the germ of Haileybury—was removed from Hertford Castle, a moderate-sized mansion belonging to Lord Salisbury and let as a private residence. We have in this a proof that a healthy enthusiasm can be cultivated successfully even in schools that lack a history.

We cannot avoid expressing our surprise that so very little is said about the work done in the great schools that are described. Very much space is devoted to history and to games, but only here and there is a desultory reference made to intellectual pursuits. We by no means imagine that education means mere grinding; but the uninformed reader of these papers would almost suppose that any form of mental exercise more exacting than a school debate is unknown at these establishments. And what happens to the dull boys when they leave? Do they all go to the Universities to stroke eights or captain football teams? There is, in fact, no adequate description of the everyday life of the average public school boy, and nothing to indicate what becomes of him after he leaves school. Nor will parents be able to form any opinion from the book of the relative merits of the schools, especially as regards the moral tone, which even amid the most delightful surroundings and the most inspiring associations is not always, we fear, as high as might be wished.

Studies in History.

Transactions of the Royal Historical Society. Vol. X. (Longmans.)

The tenth volume of the new series of the Royal Historical Society's *Transactions* includes the presidential address of Sir M. E. Grant Duff; "Shakespeare as an Historian," by H. E. Malden; "The Parliament of Lincoln," by Arthur Hughes; "Early Colonial Constitutions," by J. P. Wallis; "Early Christian Geography," by C. R. Beazley; "The Foreign Policy of William Pitt in the first decade of his Ministry," translated from Dr. Felix Salomon; and "Richard the Redeless," by S. H. D. Holton; with the report of the Council for the session of 1894–5. Sir M. E. Grant Duff's address is devoted to the "Politics" of Aristotle, and is of exceptional interest and importance, both as to the substance and as to the history of that work. The President has traced the ideas of Aristotle through succeeding ages, and has illustrated his history of government by citations from the "Politics," with all his wonted acumen, and the paper is replete with wisdom. Very notable is this general observation, quoted by Sir Mountstuart from the letter of a friend:—

> The fact is, mankind has lived now so long that there is not one question, political, social, or religious, that has not come up before, in one form or another, at one time or another, among one portion or other of the race, and received the judgment of history upon it. Know this, take your question and turn on it the strong side-lights of historical analysis, and the discoveries you may make will be surprising.

The doctrine that nobody is likely to find anything particularly worth saying to his contemporaries unless his method of saying it is, to a large extent, historical and comparative, may not be very acceptable to the man of positive and aggressively "modern" ideas; but such as will receive it and act upon it will be saved from many a crude blunder. Even if you want to state a physical theory, or to announce a scientific discovery, it is as well to know how your precursors have stated the same theory, or made or led up to the same discovery.

Mr. Malden's paper throws a great deal of light on Shakespeare's text, and is, in many respects, happily conceived and expressed. Here, for instance, is a deduction which shows that the writer has not approached his task in a perfunctory spirit: "Every one contributes to his own misfortune in these plays; the children, like Arthur, suffering with the parents who act for them. Lear, Cordelia, Othello, Brutus, Antony; the weak, the good, the generous, the noble, the great find no exception made for them." Mr. Arthur Hughes has made a careful study of the Parliament of Lincoln (1316), especially from the fiscal point of view, and his article is both lucid and valuable as a contribution to history. Mr. Beazley has much that is useful and suggestive to say on the subject of mediæval geography, and of mediæval world-ideas in general. These ideas were, of course, largely religious, and even superstitious; and, indeed, as the writer is careful to point out, there are certain ages of the world which are quite unintelligible, except through what we can understand of their theological ideas.

This volume is illustrated by a facsimile of a grant by John III., Duke of Brabant (1312–55), the original of which was presented to the Historical Society by Baron de Bogoushefsky.

Classical Authors and Composition.

Guide to the Choice of Classical Books: New Supplement. By Joseph B. Mayor, D.D. (D. Nutt.)

In compiling this laborious supplement to his well-known work, Dr. Joseph Mayor has laid all teachers of the classics under an obligation. His work is, considering the enormous extent of the field over which it ranges, wonderfully complete. To the scholar it is almost indispensable, and, though here and there the specialist may discover *lacunæ*, yet they are not such as can possibly cause practical inconvenience.

Dr. Mayor has prefixed to his work a somewhat lengthy preface, in which he discusses in a most interesting manner the system of classical teaching in vogue in this country. The suggestions that he offers are so important that we reproduce them:—

1. The historical method of studying the languages should be more widely and completely followed.

2. Classical composition should be discontinued in the higher forms. Instead, we should (*a*) pay more attention to learning by heart; (*b*) insist more on good translation into English; (*c*) teach boys to analyse the speeches of Cicero and Demosthenes, "to weigh the force of their arguments and see the reason for their arrangement"—we venture to add the speeches of Thucydides to this list; (*d*) practise English composition more systematically; (*e*) make use of the debating society as a part of the school course.

There are some minor points, but these are Dr. Mayor's important things. And we hasten to add that to every one of these five points we give our cordial assent. But, unfortunately, teachers are bound hand and foot by the Universities. So long as Oxford and Cambridge insist on composition, so long must we continue to spend a prodigious amount of time and patience more or less unprofitably in teaching the trickery of versification and prose writing. Dr. Mayor is doubtless aware that in Holland no classical composition is done in schools. I was recently profoundly surprised when Dr. Hude, of Copenhagen, whose knowledge of Greek syntax and idiom is profound, told me that he has never done a composition in his life. Indeed, do not the Dutch—whatever their vagaries—stand pre-eminent for their appreciation of what is normal in Greek?

As for translation, Oxford examiners do insist on style. But at Cambridge quantity counts for everything. Cambridge colleges set almost double the amount of translation to be done in three hours that is set at Oxford for the same time. The consequence is that candidates at Cambridge only trouble themselves how to scramble through the paper. It is the same in the Tripos—or was in the two years in which I was examiner. All that we had to consider was whether the men got the pieces right. Again, in the second part of the Tripos, I remember well being warned by one who had experience that in doing the essay the thing was to get down everything I knew and not to mind how I put the information together. I took the advice, with results eminently satisfactory, if regard be had only to the immediate purpose. But now I never think of that essay without a smile over the regardless way in which I discharged information upon the examiners.

But it is surely idle to urge changes in the curriculum of schools. We schoolmasters teach for the Universities, and until the Universities abolish composition in their examinations we must continue to teach it. Meantime, we can only regret that the average English student thereby is compelled to keep his reading of classical authors within limits that to foreign scholars may well appear extraordinarily narrow.

E. C. Marchant.

Harper of Sherborne.

A Memoir of Hugo Daniel Harper, D.D. By L. V. Lester. (Longmans.)

Though not devoid of incidental evidence that Dr. Harper was beloved and revered by his colleagues and by his pupils—as a headmaster always is when he exacts and takes his share in the proper work of the school, and combines with this a most loving and earnest care for all under his charge or associated with him in his work—yet the main object of this book is to exhibit him

as the practical man who raised a decayed grammar school to the rank of a public school. When appointed to the Headmastership of Sherborne School, Dr. Harper found two boarders and a mediæval system. The buildings were old and dilapidated. Two masters only were provided by the foundation, all others being provided by the Headmaster; and all they were required to teach was Latin and Greek and some little divinity. Nothing else was taught, not even writing and arithmetic. No modern history was ever touched, and German was unheard of. The payment partly depended on "Christmas presents" of a guinea, which, though not compulsory, were customary. There were no prizes, and no public examinations. The boys washed at a pump in the open air, and were regaled with huge slices of bread-and-butter and half-pint mugs of milk at breakfast and tea.

How Dr. Harper "turned the brick into marble," secured a staff of competent masters (largely at his own expense), filled the school, and raised its standard of work and discipline, is told fully and in an interesting manner by Mr. Lester. When, in the course of time, the school "entered the valley of the shadow of the Endowed Schools Bill," it was found that most of the provisions of the new scheme had been anticipated and were in working order. The accounts of the Trust were published, the school was examined by independent examiners; modern subjects had been introduced, and a conscience clause had been inserted by the governors, though against their will, it is true. Above all, by the tact and energy of the Headmaster, the buildings of the Benedictine Abbey have been procured and adapted to the use of the school. It is a story of self-sacrificing energy well worth telling, and it has been well told.

What Dr. Harper had done for Sherborne as its Headmaster, he afterwards helped, as a Governor, to do for several other schools. The late Headmaster of Wellington College writes: "I have always felt that my happiest stroke here was in persuading my governors to add an expert to their Board, and my luckiest moment when they elected you." Mr. Thring of Uppingham wrote in even stronger terms of Dr. Harper's services to his school, and Mr. Vardy of King Edward's School, Birmingham, who is still, we rejoice to say, at his post, says: "We really cannot spare your experience and the weight of your authority." Weight and authority were the characteristics of this man of action. They were recognized by the Royal Commissioners; they were recognized afterwards at Oxford. They were recognized even at the Headmasters' Conference, where everybody possesses them. But the weight never became oppressive, and the authority was never dictatorial. For Dr. Harper was more than a man of affairs; one of his early assistant-masters described him as "a generous, manly, Christian gentleman." Four more exactly accurate epithets could scarcely have been found. "He has a strong heart to love you, boys; a strong head to teach you, boys; and a strong arm to give you the 'needful chastisement.'" These were the qualities that made him not only a successful organizer, but a great headmaster.

A Literary Primer.

A Manual of Italian Literature. By Francis Henry Cliffe. (Macqueen.)

There was plenty of room in England for a comprehensive sketch of Italian literature, coming down from Dante to the present day; and, though Mr. Cliffe's review of contemporary poets and prose-writers in Italy is meagre and void of illustration, his book as a whole will serve a good purpose. For the centuries preceding the nineteenth his quotations are ample, and convey a fair idea, at any rate in outline, of the principal poets in successive generations, whilst in the case of Leopardi, who to his own countrymen was in some measure what Keats was to Englishmen, he gives us a profusion of specimens in a metrical rendering. Mr. Cliffe is rather offhand in tracing back the literary ideals of Italy to classical times. He declares that he knows no other instance of a great nation, "victorious and dominant over the whole civilized world, humbly sitting as a disciple at the feet of one of her captives, and that not only for a short time, but for the whole course of her intellectual development." This states a familiar commonplace with excessive and not quite legitimate emphasis, which a perusal of Mr. Mackail's survey of "Latin Literature" might have done something to modify. No doubt Niebuhr has said that the true poetry of Rome must be found in her history and in her early legends rather than in the finished productions of her literary poets. But what is the true poetry of Rome? The philosophy of Lucretius, the tenderness of Catullus and Tibullus, the fables and the erotics of Ovid, the lyrics of Horace, the heroics of Virgil and Lucan—to what extent were they humble imitations of the Greek, or anything else than a true outcome of Roman genius and circumstance? If Horace had read Pindar and Alcaeus, and if Virgil had read Homer and Theocritus, it is surely unfair and non-natural to conclude that they owed any of their essential qualities to the poets whom they admired and occasionally imitated. What Mr. Cliffe means by saying that their imitation "destroyed everything in their writings that was spontaneous and redolent of their native soil," we are quite unable to imagine. It is true that the Roman authors were "literary" rather than men of originative genius; but that is a very different thing from the exaggeration which we have quoted.

Mr. Cliffe's introductory chapter raises questions of great importance, which could not be adequately treated within the limits of seven or eight pages. The chief value of his manual is as a matter-of-fact outline of Italian writers and their works.

A New History of Rome.

A Short History of Rome to the Death of Augustus. By J. Wells, M.A. (Methuen.)

We drew attention recently to the multitude of Roman histories with which schools are now being supplied. Each author of a new "Short History" points to the deficiencies of previous works of a similar nature. Thus, Mr. Wells explains that his "excuse for adding another to the large number of school-books already existing is that, at present, no satisfactory small Roman history exists in England; that this is so most schoolmasters will agree." We wonder what Mr. Wells' successor (for whom we shall surely not have long to wait) will say. Nothing very different, it is to be suspected. There is no finality about text-books; in fact, this is a point on which schoolboys, or rather the parents of schoolboys, are justified in complaining. The only compensation for the constant expense involved by the change from one manual to another is that a languid interest, arising from the slight novelty of each fresh work, may possibly be kept up. All the various Roman history text-books, however, are based on the same authorities, and, except when the compiler has done his work badly, it does not seem to matter, to the extent of the cost of the book, whose compilation we employ. There is nothing particularly noticeable about the newest claimant for school-book honours. Mr. Wells has done his duty by his rather threadbare Clio, and is as readable as any of his predecessors. He makes considerable use of the agreeable but very misleading historical parallel; in fact, he makes it rather a feature in his volume, as he takes the trouble to point out in the inevitable apologetic preface. There is no reason why he should not draw parallels, so long as he does not infer anything in particular from them; and in justice we must observe that he is duly cautious in this respect.

SHORT NOTICES.

SCIENCE.

(1) *Practical Electricity*, Vol. I. By W. E. Ayrton, F.R.S. (Cassell & Co.) (2) "Advanced Science Manuals."—*Light.* By W. T. A. Emtage, M.A. (Longmans.) (3) *An Intermediate Course of Practical Physics.* By A. Schuster, Ph.D., F.R.S., and C. H. Lees, D.Sc. (Macmillan.) (4) *Practical Work in Physics.* Part III., *Light and Sound.* By W. G. Woollcombe, M.A., B.Sc. (Clarendon Press.) (5) *A Junior Course of Practical Chemistry.* By Francis Jones, F.R.S.E. (Macmillan.) (6) *The Tutorial Chemistry.* Part I., *Non-Metals.* By G. H. Bailey, D.Sc., Ph.D., and William Briggs, M.A. (Clive.) (7) *An Introduction to Structural Botany.* Part II., *Flowerless Plants.* By D. H. Scott, M.A., Ph.D., F.R.S. (A. & C. Black.) (8) *Hygiene for Beginners.* By E. S. Reynolds, M.D. (Macmillan.) (9) *Diagrammeter (Hygiene).* By W. H. Knight. (Chapman & Hall.) (10) *The Human Eye and its Auxiliary Organs.* By Dr. H. Renlow. (Philip & Son.) (11) *Model of a Horizontal Steam Engine.* By Chr. Volkert; translated by A. Philip. (Philip & Son.) (12) *Fuel and Refractory Materials.* By A. H. Sexton. (Blackie.)

(1) In accordance with the great advances which have been made in the practical applications, as well as in the scientific study, of electricity, during the ten years since the first edition was published, Professor Ayrton's *Electricity* has been entirely re-written. It is not a laboratory manual of instructions for experiment, but rather a text-book written to accompany a definite course of practical work. The electric current is treated of first—indeed, in this first volume, very little is said about electrification—and, from the first, the very greatest care is taken to insure a clear understanding of what an electric

current is and is not. In the chapter on Potential, a great deal of space and a number of excellently devised experiments are devoted to the comparison of the flow of water through a tube with the electric current, while the differences between the two are also very clearly indicated. The book is thoroughly readable, and the illustrations admirable. An appendix on the history of the ohm, and other units, should be interesting to many besides electrical students. May Professor Ayrton's method of teaching soon spread through the land, and, adapted to humbler institutions, supplant the method of the belated science-teacher, who may yet be found telling his students that there is a theory that electricity is two fluids, but more probably it is a form of "force."

(2) Mr. Emtage's *Light* is not a particularly readable treatise: the explanations given are often unnecessarily involved in their wording. As a sample, we read through most of the section on Polarization, and failed to find any clear pronouncement that might remove that stumbling block to the ordinary student—the notion that there is really something "extraordinary" about the ray *itself* which bears that name, quite apart from the medium it is travelling through. We have not found any errors, but it is possible to tell the truth in a more understandable way. In spite of a statement in the preface, we do not think that sufficient attempt is made to bring the reading into touch with the accompanying laboratory work. There are a good many illustrations, but the majority are geometrical figures.

(3) Messrs. Schuster and Lees give us a very thorough guide to laboratory work of a less elementary sort than that which most recent books of the kind have taken up. It covers all the departments of physics, including electricity and magnetism; but the number of experiments in each department is not as great as we might have expected. All the descriptions are very careful, and the diagrams, though simple, are perfectly clear.

(4) Mr. Woollcombe's practical little book contains directions for a number of experiments on photometry, reflexion and refraction of light, lenses, the monochord, and the velocity of sound in various media. All the essential apparatus is of a simple description. The directions that we have sampled are clear, but there are not many figures.

(5) Mr. Jones's well-known work reappears in a new cover, and with considerable internal alterations. In spite of these, the plan of the work is of the old type, which we hope to be able to call "obsolete" before long. Although there are 35 pages devoted to useful preliminary work before the student is led into the desert of "tests," yet the latter occupy the bulk of the book. Equations, too, accompany the very first experiments carried out. Of its kind, nevertheless, the book is a good one; and the introduction of simple quantitative work at the end is a useful improvement.

(6) The authors of this work state in the preface that "experiment, observation, and inference should go hand in hand;" and that "it is unwise at the earlier stages to overburden the student with chemical theory, the full force of which he is unable to grasp." Yet in chap. i., after two experiments only of a very simple kind, the student is led on to a list of elements, formulæ, equations, and atomic weights. Although we must entirely object to this start, and the method of treatment necessitated by it, we have found the descriptive parts of the book decidedly good. The book would be a better one if it did not attempt to be elementary. A hundred or so experiments are described, and there is a chapter on chemical calculations.

(7) In this second part Dr. Scott carries on his description of plants, on the "type system," through the whole Cryptogamic series. The difficult task of showing the homologies of the reproductive organs of flowering plants by gradually working downwards is very successfully carried out: the opposite method of working upwards from ferns always seems the more natural and satisfactory, but we feel less confident of this after reading this volume. The types are all carefully selected, and the conception of evolution and inter-relationship is ever present: the last chapter, however, picks up the threads and shows how very difficult the tracing of plant phylogenies must ever be. The illustrations, particularly those drawn especially for the book, are very clear: one or two that are taken from older works are less satisfactory. Altogether this is a valuable addition to the introductory works on the subject.

(8) Nearly half of Mr. Reynolds's book is occupied by an elementary account of human physiology; the remainder treats of the various subjects usually included under the term "hygiene." A great deal of good advice is given, but the author is occasionally rather loose in expression: the worst example of this occurs on page 96, where we are told that *food* is converted into *work* and *heat!* The paragraph in which this statement occurs also attributes much greater ignorance to physiologists than is justified, and is altogether misleading. We are surprised, too, to find cotton and linen recommended for night-shirts and other garments: the author can hardly have given all-wool clothing a fair trial. It is sad enough that fashion should compel people to wear linen; but fashion needs no support from books on hygiene.

(9) These are zinco reductions of the author's lecture-diagrams. Some of them have come out well, but a number of the smaller ones are hopelessly obscure. This is sometimes because the scale is really too small, sometimes because the original drawings were not suitable for reduction. There seems to be a general impression among elementary text-book writers that any drawing will do for a zinco, whereas a very special kind of drawing is really necessary. The subjects of the diagrams are usually well chosen; but why a brick wall (labelled "muscular fibre") and certain other mysterious patterns (labelled "stomata of leaf" and "fungi") should appear among the impurities of water is more than we can fathom.

(10) A most admirably planned and executed flat model of the human eye. Short of an expensive plastic model we can imagine nothing better than this to give the student correct notions of the anatomy of the eye, before he proceeds (if he ever does) to dissection. There is sufficient explanatory text. The price (half-a-crown) is surprisingly low.

(11) Another useful model, though hardly as clearly printed as the anatomical one just noticed.

(12) A book for the metallurgical student, dealing with coal, coke, and crucibles. Some subjects of more general interest are discussed, such as the luminosity of flame (where the recent work of Prof. V. B. Lewes is described) and the prevention of smoke; but the latter subject, alas! is dismissed in a paragraph.

FRENCH.

(1) *French Lessons for Middle Forms.* By Eugène Fasnacht. (Macmillan.) (2) *A New, Practical, and Easy Method of Learning French.* By F. Ahn. Revised and edited by C. A. Thimm, F.R.G.S. Author's fourteenth edition. (Marlborough & Co.) (3) *Class-Room Conversations in French.* By Victor Bétis and Howard Swan. (Philip & Son.) (4) *Longmans' Illustrated Second French Reading Book and Grammar.* By J. Bidgood, B.Sc., and J. Watson Campbell. (Longmans.) (5) *A Collection of the French Homonyms, Synonyms, Paronyms, and Multisenses.* By H. de Larmoyer. (Neville Beeman.)

(1) Whenever we open a book by Eugène Fasnacht we may always be sure of two things amongst many others—viz., that it is scholarly, and that it is thorough. The present volume of *French Lessons for Middle Forms* is fully in keeping with what we are accustomed to from its author. It is, as it purports to be, clear in its arrangement, lucid in its exposition, and carefully progressive. One main point to be especially noticed is that it in no way aims at saving the pupil the trouble of thinking, but treats the language as an instrument of mental discipline and culture. It is brimful of examples and exercises, generally of a colloquial character, thus enhancing the practical value of the book. True, the time required to go conscientiously through the book in the class-room might perhaps be longer than allowed in most schools; but this in no way detracts from its value, as such extra time could hardly be better employed. In its get-up it leaves hardly anything to be desired, and is throughout free of errors. We heartily recommend the book, feeling sure that pupils who have carefully gone through such a course of lessons will not possess a smattering only, but a good and soundly reasoned knowledge of the language.

(2) To learn a language as you would your mother tongue is seldom, if ever, to learn it as a means of mental discipline; and, if the study of modern languages is to be considered as efficient for mental discipline and culture as the study of ancient languages, a little more—in fact, a good deal more—than Mr. Thimm's new edition of Dr. Ahn's French Grammar is required. This edition presents but little difference from previous editions of Ahn's Grammar, which strikes us as now quite obsolete. Progress in the teaching of French has made gigantic strides, and somewhat left Dr. Ahn, or rather his followers, in the rear. Easy ways on the path of learning but too often mean slovenly ways, and are generally a delusion. The work is to be done over again carefully, thoroughly, and it were always better it should be so begun at once. For these reasons we feel but little, if any, sympathy with Mr. Thimm's venture. The book has otherwise a good appearance, and . . . a key thereto is also published!

(3) M. Gouin is dead; but before his death he had the consolation of espying the promised land, that is, of seeing the effort of his life crowned with success and flourishing in both hemispheres, in London and Boston. But, "nul n'est prophète dans son pays," and M. Gouin saw his system take but slender root in France. We are not, however, going to discuss here M. Gouin's method. Many believe in it, and, to such, we have little doubt that the volume before us will prove to be of utility. It is well got up, fully diversified, replete with "motives and situations," "facts and thoughts." Anybody who could go, even parrot-like, through the book, remember it, and successfully apply each phrase and turn, might be considered to possess a fair colloquial, yea idiomatic, knowledge. But we still maintain that this knowledge would not be a knowledge of the French language, but only, at most, a glib smatter thereof. French, as a study, is worthy of higher thoughts. We even doubt whether the mind of the student, after such a course, would be, as it is maintained, psychologically developed. Certainly it would be so mnemonically. Be it as it may, there is room for all methods, and the requirements of students are many and varied. Messrs. Victor Bétis and Howard Swan have done their work conscientiously, and for this, and their earnestness as teachers, we wish their new book success.

(4) A very pleasant little Reader, interesting and varied in matter, profusely and well illustrated. It seems to apply apparently, but to a small extent only, the principles of the "Neuere Richtung," *i.e.*, practical and sound knowledge, making the reading lesson dependent on the grammar lesson, and *vice versa*. It is provided with a vocabulary, and a most useful appendix will afford ample practice in translation from English into French, each exercise being based upon a corresponding reading lesson. The book is in every way commendable.

(5) Within its small compass, this little book contains a fair amount that is good and useful. But, if space were not, as it seems to be, a consideration, the compass might advantageously, for all concerned, be largely extended. Synonyms, Homonyms, and Paronyms are somewhat ticklish words requiring precise and tersely idiomatic renderings to differentiate them well in their individual meanings and pronunciation. A few typographical errors could also be dispensed with. We confess that we have not caught the idea of the "*multisenses*." What words are not liable to be explained differently according to the circumstances in which they are applied? Any piece of prose or verse is indeed an exercise on "multisenses." The substitution of one word for another synonymous to it is a mental gymnastic we must all go through whenever we speak or write. So we hardly see the necessity of a special chapter thereon, unless, indeed, it is added for the special purpose of introducing a scene from a comedy by the author. A very funny one indeed, judging from the sample given! We must demur to some of the renderings given. We were not aware that *profondeur* ever meant *cupidité*, or *incroyable* could be replaced by *incompréhensible*. *Il raffine sur la langue* is surely not "he improves the language"; a "Gladstone bag" is not usually a *nécessaire de voyage!* What is the meaning of *Il use des lunettes? Faire tourner la tête à quelqu'un* seems to mean "to make one fall in love"! Cut away the "multisenses," which contain a few "multinonsenses," and much that is useless, and expand the synonyms, paronyms, and homonyms; after which we shall see the book again with pleasure.

GERMAN.

(1) *Selections from Auerbach's Schwarzwälder Dorfgeschichten: Die feindlichen Brüder: Erdmute.* Edited, with a literary introduction, notes, and a complete vocabulary, by J. F. Davis, D.Lit., and A. Weiss, Ph.D. (Whittaker.) (2) *A Manual of German Commercial Correspondence.* By S. E. Bally. (Methuen.) (3) *Longman's Illustrated First German Reading Book.* By H. S. Beresford-Webb. (Longmans.)

(1) The educational mania—we really cannot call it by any other name—of editing all sorts of French and German books, suitable and often also unsuitable ones, with notes and a vocabulary, has spread to such an extent that it would be useless to try to check it. Most of the books thus issued had better be left "unedited," and, if edited at all, one kind of help would in most cases suffice, either a vocabulary only, or merely explanatory notes. The editors of two of Aucrbach's *Schwarzwälder Dorfgeschichten* have provided both notes and a vocabulary, with which they have evidently taken pains. We cannot, however, fully approve of the choice of these stories, impregnated with the Suabian peasants' dialect, as a text-book for English readers, just as we are unable to recommend fairy tales intermingled with provincialisms as a basis for learning German. It is true the editors of Auerbach's stories have what they call *corrected* the South German provincialisms, and they have only left a "sufficient number of them to maintain the original character of the book"; but in leaving these expressions they merely contented themselves with putting by the side of them, in the notes or the vocabulary, the modern High German equivalents, without distinctly stating that the former belong to the Suabian peasants' dialect. It would have been advisable, if any provincial expressions are left at all, to prefix to the notes a short chapter on the South German dialect in general, and its relation to modern High German; which would have been both interesting and instructive for the student. Auerbach's village tales are certainly most charming, but let English readers peruse them after they have acquired a thorough knowledge of German, when the provincial expressions will not be likely to influence their conversation. As regards the editorial matter it is in general helpful, but the notes are not invariably correct. The Introduction is rather defective, no mention having been made of some of Auerbach's most important works, such as *Barfüssele*, *Ivo der Hajrle*, *Joseph im Schnee*, &c.

(2) Young Englishmen anxious to supersede the ubiquitous German clerk are now sufficiently provided with means of qualifying themselves as foreign correspondents. The number of manuals purporting to teach French or German correspondence is constantly increasing, and it is to be hoped that the supply will stimulate the demand. Mr. Bally's contribution to this branch of educational literature will, in general, be found useful. It is, however, much to be regretted that he did not confine himself to purely *German* correspondence. We are at a loss to understand why he has inserted the glowing hotel advertisement (page 17), filling more than half a page, or the "puffing advertisement"—so designated by the compiler himself—relating to watches (page 25). Of what earthly use can these passages be to a young Englishman wishing to learn German correspondence? Even the insertion of the longer commercial English extracts seems to us superfluous. English clerks are not required, as a rule, to correspond in German, but simply to be able to make out German commercial letters. The vocabularies and phrases in the book will be found useful. Some of them require, however, correction. Thus *Dear Sir* is not to be rendered *Geehrter Herr und Freund*, but simply *Geehrter* (or *Werter*) *Herr*. For "Criminal Court" the compiler gives the German *Kriminell-* or *Kriminalgericht;* but we do not remember ever having seen the word *Kriminellgericht*.

(3) The illustrations in *Longman's Illustrated First German Reading Book* are, on the whole, satisfactory, but the text is not quite so graduated and systematically arranged as such beginners' books should be. Some of the phrases and short sentences have an Ottonian smack about them. The little book is very prettily got up, and clearly printed.

REPRINTS.

The Alhambra. By Washington Irving. With an Introduction by Elizabeth Robins Pennell. Illustrated with Drawings of the places mentioned, by Joseph Pennell. (Macmillan.)

The book before us is adorned by three hideous cuts—on the tissue of the frontispiece, on the title-page, and on the first page of the text—which entirely spoil it. If it were not for these, we should be able to speak in high terms of this reprint of Washington Irving's *impressions de voyage*, with Mr. Pennell's characteristic wash- and line-pictures of the Alhambra and its surroundings. We cannot say that we care much for Mrs. Pennell's introduction. What does she mean, for instance, by saying that Irving was "a hack in a manner"? Does it make one a hack to be engaged on literary work in Spain? In that case we could understand the term, and give it wider application. Mrs. Pennell also talks of Roscoe's "pompous trash," and of "the present generation of writers, who measure the excellence of work by the price paid for it." What with the introduction and the three cuts, our enjoyment of this book is considerably marred.

Emma. By Jane Austen. With an Introduction by Austin Dobson. Illustrated by Hugh Thomson. (Macmillan.)

About a year ago we welcomed the addition of *Pride and Prejudice* to Messrs. Macmillan's "Illustrated Standard Novels," with its introduction and illustrations by Mr. Dobson and Mr. Brock. We repeat every word of praise, especially for Mr. Thomson's delightful pictures, which renew for us our early delight in *Emma*. Readers of the present day have not been very well prepared for appreciation of Jane Austen, and most of them will probably agree with Charlotte Brontë when she said: "There is a Chinese fidelity, a miniature delicacy, in the painting. She ruffles her reader by nothing vehement, disturbs him by nothing profound. The passions are perfectly unknown to her." But it is something—nay, it is a great deal—that these romances can be reprinted after nearly a hundred years, and still find numerous admirers.

Tom Brown's School-Days. By an Old Boy. With Illustrations by E. J. Sullivan. (Macmillan.)

The preface of 1858 still accompanies this mid-century story of the heroic days of Arnold's Rugby. The author is but recently dead, yet his triumph of more than forty years ago continues to be popular, and is not likely to go out of favour for many years to come. It is still a capital story in its way, after all the changes of thought and custom that have come about since Thomas Hughes was a boy. Its influence is all for good—except only a little tendency to priggishness; and there is many a worse vice than the priggishness of a boy who has learned to do his duty.

Bell's Reader's Shakespeare: The Tragedies and The Tempest. Condensed, connected, and emphasized for School, College, Parlour, and Platform. By David Charles Bell. (Hodder & Stoughton.)

Perhaps this book ought scarcely to be classed amongst reprints of English authors, for it contains only parts of the plays of Shakespeare, and it has ulterior purposes—elocutionary and other. Yet there are many whom it may suit to have their Shakespeare in this form. The print is clear, and Mr. Bell's apparatus is not obtrusive.

MUSIC.

A Daughter of the Sea, by Frederic H. Cowen, to words by Clifton Bingham (Novello), is a cantata for female voices. The music is beautiful and dramatic, and it deserves close and attentive study.

Book 71 of *Novello's School Songs* contains six songs by various classical composers, and Book 72 has five little poems by R. L. Stevenson, set to music by R. Houston Macdonald. Both sets are in unison, and in the old and new notations. Book 66, of the same series, has six well-known old songs, arranged for soprano, alto, tenor, and bass, by Percy Godfrey, printed in both notations.

Part 6 of *Part Songs for Treble Voices* contains some two- and some three-part songs; among them is Dr. Arne's "Under the Greenwood Tree," and Whittaker's lovely glee, "Winds gently whisper."

Messrs. Novello send us an excellent collection of two-part solfeggi, selected from the works of the great masters, by James Higgs, for

practice in choirs and vocal classes; also two sets of *Sight-singing Studies*, one in tonic sol-fa, the other in staff notation.

Songs for Little Singers, by H. King Lewis (Simpkin, Marshall, & Co.), is in its fourth edition. Some of these hymns and songs are original, some old favourites; but all are set to simple appropriate music, and their popularity is not surprising.

The Miller and the Maid and *The Bogie Man* (Boosey & Co.) are arranged as action songs, by Mrs. L. Walker, for performance by little children. Every detail of gesture and attitude has been thought of, together with suggestions as to costume. The melodies are well known to most children, and the little ones are usually delighted at the notion of turning a song into a play.

Music for the Kindergarten Supplement II., edited by Eleonore Heerwart (Boosey & Co.), contains a few more songs for very little singers. These are written and selected with the view not only of amusing and interesting, but also of educating.

Elsa's Fairy, a musical play for girls, is written by Florence Hoare, and composed by Myles B. Foster. The music is very light and easy, but the words of wisdom spoken by Elsa must have been learned from a wider experience than a school-girl could have had, and they sound somewhat priggish.

Rumpelstiltskin and *The Goose Girl*, musical plays, combined with much dancing, for the young of both sexes, by Alfred Scott Gatty (Boosey & Co.), are very spirited and taking. We like the latter, especially, and the dances it includes are written by M. Louis d'Egville, a past master in the art. The music of both little plays is most melodious, but here and there we seem to be listening to the voices of old friends.

We have also received the following publications:—

Whitaker's Almanack, 1897 (Whitaker)—one of the most indispensable of English books, now extending to 760 pages, with articles on the Longest Reign, London Water and Tramway Companies, the National Food Supply, and the usual summaries for 1896, and a marvellous mass of general information.

A Handbook to the Goldsmiths' Company's Technical and Recreative Institute, New Cross; The Twelfth Annual Report of the Universities' Settlement in East London (Toynbee Hall); *A Beautiful World: The Journal of the Society for Checking the Abuses of Public Advertising*, No. 6 (Bale & Sons).

The London University Guide for the Year 1896–7 (Clive)—with almanac and calendar, history and regulations of the University, scheme of examinations, and advice as to text-books adapted for the University Correspondence College.

The Cambridge Bible for Schools: Isaiah i.–xxxix., edited by J. Skinner, D.D. (Cambridge University Press)—with English text, copious notes, and map.

The Gospel according to St. Luke, edited by George Carter, M.A. (Relfe Brothers)—text, analysis, and notes, with map.

The Pocket Atlas of the World, by J. G. Bartholomew (John Walker & Co.)—a tenth edition of a little gem in book form, with 144 remarkably clear maps, introduction, statistical tables, and index; admirable for ready reference.

The Theory and Practice of Handwriting: a Practical Manual for School Boards, Teachers, and Students, with Diagrams and Illustrations, by John Jackson (Sampson Low)—third edition; a *rationale* of writing, inculcating the upright system.

Arnold's Object Lessons, Book II.: the Teacher's Handbook to Arnold's Object Reader II. (Edward Arnold).

Physics Note Book, with Spaces for the Pupil's Drawings of Experiments, by J. C. P. Aldous (Macmillan's "Britannia Series").

A Geography Lesson: the Blackboard and Oral Teaching, by E. R. Wethey, M.A. (Philip & Son)—printed by request of the Geographical Association.

The Townley Standard Geographies, Standard V. (McDougall).

Cassell's Technical Educator: an Encyclopædia of Technical Education (Cassell & Co.)—Part 1 of a new cheap issue.

The Golden Readers, Standard I. (Moffatt & Paige)—simple fairy-tales and other stories.

New Decimal Coinage, fully explained, with Reference Tables of Exchange, by J. L. Rees, B.A. (Relfe Brothers)—one more voice in the wilderness, to prove how much would be gained by adopting the decimal system.

Science and Art Examination Papers: Mathematics, Stages 1 *and* 2, *from* 1887 *to* 1896, *with Answers* (McDougall)—very handy little books, each containing full solutions of the questions for 1896; *Scheme B, Arithmetic, Standard V.* (same publisher)—adapted to the Code; short rules and examples.

Jerusalem in the Time of Our Lord: a coloured Plan and Models of the principal Walls and Gates, by Maud A. Duthoit, with Introduction by Lt.-Col. Conder (Religious Tract Society)—a very entertaining cardboard puzzle, which will entertain a family very profitably for one or more winter evenings.

From the Cambridge University Press we have also received Dr. Gow's edition of the *Odes and Epodes of Horace*, bound in one volume. We have already expressed our opinion of this meritorious edition.

LITERARY GOSSIP.

The Oxford University Press (represented in London by Mr. Henry Frowde) has followed the example of certain other publishers by issuing an occasional foretaste of its forthcoming books, under the title of *The Periodical*, the first number of which has reached us. It consists of appetizing extracts and sketches from the newest volumes of the Clarendon Press.

The Drapers' Company have voted a grant of one hundred guineas from their corporate funds towards the endowment of the Lectureship in English at the University of Cambridge, recently founded by Professor Skeat.

Mr. F. T. Palgrave, the editor of the favourite "Golden Treasury of English Songs and Lyrics," is about to edit a new anthology. The volume will contain descriptions of scenery and landscape in verse, from Homer to the writers of the present age. Celtic and Anglo-Saxon poetry, as well as the ancient Greek and Latin, have been put under contribution. As a rule, the originals of the quotations, as well as Mr. Palgrave's translations of them, will be printed. The volume, which will be published next year by Messrs. Macmillan, is an enlargement of the lectures delivered by Mr. Palgrave to undergraduates when he was Professor of Poetry at Oxford.

The Hakluyt Society, which was founded to continue the work of Richard Hakluyt, celebrated its jubilee on December 15, at the rooms of the Royal Geographical Society. Among those present were Sir Martin Conway, Major Darwin, Mr. A. Milman, and Dr. Rutherford, Headmaster of Westminster School, where Hakluyt, who was born in 1553 and died in 1616, received part of his education. The President (Sir Clements Markham) gave an address, sketching the history both of Hakluyt and the Society. Formed to continue the work of the man whose name it bears, the Association has issued over ninety volumes of the narratives of old heroic explorers. There was, said the President, no book of old voyages and travels which was not indebted to the Society, generally without acknowledgment, often without knowledge of the fact.

Mr. Frederic Harrison's suggestion of a bibliography of works on our national history had been in part anticipated by the labours of Mr. W. Carew Hazlitt, whose publications cover all the early chronicles, memoirs, periodical literature, pamphlets, broadsides, &c., down to the close of the seventeenth century. Mr. Hazlitt has been collecting this historical, biographical, and other material for nearly thirty years, and he intends, we believe, to print shortly a further supplement to the series published by Mr. Quaritch.

In the December *Forum* there is a thoughtful paper on "Drawbacks of College Education," by President Thwing; the first of a series of papers on "How shall the Child be Taught?" by Dr. J. M. Rice; and a noteworthy appreciation of "The Poetry of the Earl of Lytton," by Professor Saintsbury.

President Thwing's paper is serviceable from the point of view which he takes. "College life," he says, "may injure men through fixing the habit of loving and doing only that which is agreeable. The college may minister to laziness. The laziness may be of a crude sort. . . . but this type is far less common than that of a refined dilettanteism. The college may minister to an indolence manifesting itself in methods and manners which are at once gentle and inane—of excellent form, but of worthless content."

A corrective or a foil to this paper may be found in President Bradley's "Higher Life of the College," in the December *Education* (Boston, U.S.A.). Dr. Bradley says: "The typical American college has been the best example which the world affords of a true social democracy. Merit has been the sole ground of preferment [does the writer mean examination results?]. Unworthy aims and motives have been held in contempt. Plain living has been joined with high thinking."

Professor Anwyl, of Aberystwyth, is engaged upon a grammar of the Welsh language, for the use of the middle and higher classes in schools.

Blackwood's Magazine for January contains an important article on "The Registration of Women Teachers." To the same number the authoress of "Mona Maclean" contributes a paper entitled "Halcyon Days," which describes student life in Glasgow.

CORRESPONDENCE.

EXAMINATION DIAGRAMS.

To the Editor of The Educational Times.

SIR,—The diagrams which I enclose represent the aggregate results of examinations which I have conducted during late years, of which I have preserved the marks, and in which the same candidates have been

examined in both elementary Geometry and Algebra. It is, of course, not a new idea to represent examination results diagrammatically; but I think that the method might well be more continually used, and for a more general purpose.

A men-marks distribution curve, such as the first of those I now send you, indicates something not so simple as it might appear at first sight to represent, since it depends not only on the composite character of the examinees, but on the personal equation of the examiner, both in setting the papers and in marking them. It would be difficult to separate these factors in interpreting the results; but it would be possible to eliminate a good deal of the *personal-equation* effect by drawing the curves from the results of examinations of the same character of candidates, conducted by many different persons both in setting the papers and in estimating the value of the written replies.

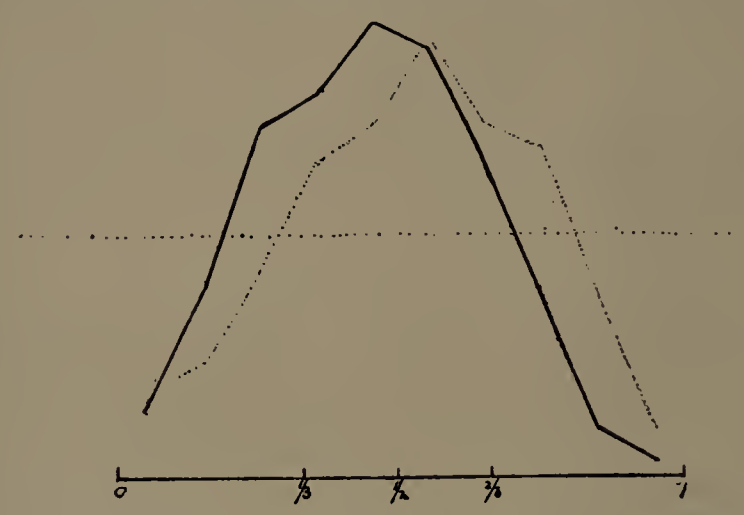


FIG. 1.—FORM OF MEN-MARKS CURVES FOR ALGEBRA AND GEOMETRY
Full line—*Algebra*. Dotted line—*Geometry*.

Keeping to the subjects illustrated in the diagrams, we should then obtain normal distribution-curves for Algebra and Geometry. This could not be done by individuals, but such bodies as the University of London or the Local Examination Boards of Oxford and Cambridge are doubtless in possession of marks which should give very fair specimens of such normal curves.

It would be very instructive to know the forms of these curves, not only for the two subjects which I have given in illustration, but also for all the subjects which enter into examinations of a school-leaving character.

I am convinced that every one who has occasion to act as a school-examiner would like to have the normal distribution-curves for the fifth and sixth forms of good schools in his own subjects. I have no doubt the Joint Board could give them, and I have found the labour of preparing the curves much lighter than I had anticipated.

My object is to make the suggestion that fair normal distribution-

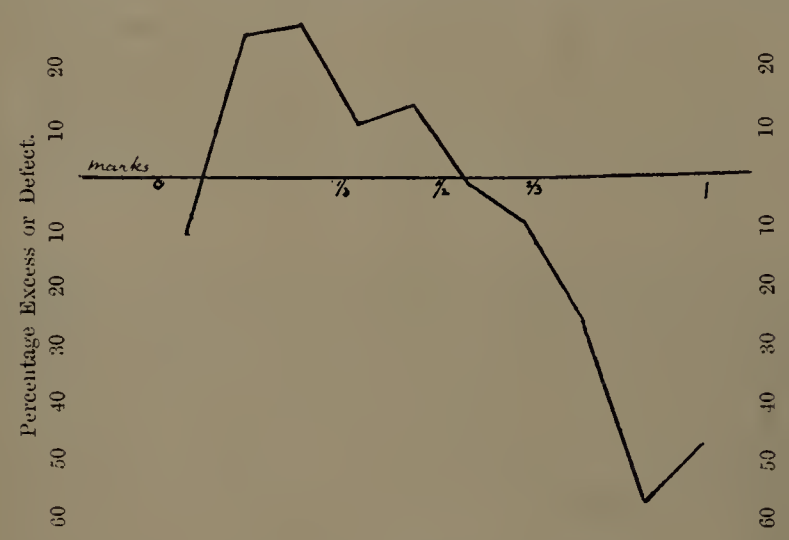


FIG. 2.—CURVE REPRESENTING PERCENTAGE EXCESS OR DEFECT IN THE "ALGEBRA" CURVE COMPARED WITH THE MEAN FOR THE TWO SUBJECTS.

curves could now be obtained, and that they would have a very definite value.

I lay no stress upon the diagrams I have sent in illustration. Candidates similarly trained enter the lists I have used with some frequency; this, as well as my own personal equation, may have had a large influence upon the form of the diagrams. They have increased my desire to know the normal distribution, and they may have the same effect on others.

The dotted horizontal line across Fig. 1 is the line of uniform distribution of men among the marks, and is given to make different diagrams readily comparable.

Fig. 2 represents the percentage of excess or defect of numbers getting any mark in Algebra over the arithmetic mean of the numbers for the two subjects. My numbers are too small to make this curve of much value, and the form would be very different for the normal curves.

I hope I have made it clear that my intention is to be suggestive, not argumentative.

I wish to sketch a mode of dealing with what I fancy is the greatest disturbing element in our system of pass examinations. I start from a presumption, which I imagine fairly correct, that there is among competent examiners in a subject a more or less traditionally fixed system of marking, and that such an examiner can keep his standard fairly uniform. Under these circumstances, I believe the results for different subjects can be compared, and that the comparison will give the better result the less the interference, by instruction or otherwise, with the examiner's method of obtaining his numerical results. I am supposing that the number of marks which are dealt with is large, so that a distribution curve represents an average and not a special or accidental distribution.

The method I propose is that the administrative body controlling any extensive examination system should prepare the average distribution curves for each subject from the numbers for the last few years—say five or ten years—and also the mean curve for the whole set of subjects. The curves, it may safely be predicted, will not be so different in general character as to make it difficult to devise a mode of stating the marks in each subject, so as to make the curve roughly coincident with the mean curve for all subjects. A coincidence within the ordinary limits of error in a marking system is quite sufficient for the purpose. The device found by this geometrical method is then translated into an arithmetical method of treating the marks of each subject so as to make them comparable.

When the marks for the next examination come in, and have, if necessary, been subjected to revision, they would be treated by the method which has been here explained before pass or division lists are prepared. Also the distribution curve for each and the mean curve should be plotted and compared with the standard curves. If the marks have been revised it would generally be easy, by combining the opinions of the revisers with the information drawn from a comparison of the curves, to decide whether the change in shape results from a degeneration in the candidates or from other causes. Valuable information would in any case be derived from them, and much more reliable information than from the general impression of the examiners unaided by such means.

It may be that the scheme here sketched is too complex, although I believe it would be fairly simple in practice. But I think it will be admitted that there is some need for an adjustment between the subjects in pass examinations, and, if my suggestion leads to the adoption of a simpler plan, I shall not think the suggestion wasted.

Manchester, *December* 5, 1896. R. F. GWYTHER.

THE TEACHING OF GERMAN.

To the Editor of the Educational Times.

SIR,—Germany is pre-eminently the land of science and philosophy, and every student in every science has to study German books and memoirs. I wish that the means at the student's disposal for the learning of the language could be improved. First of all, a crying want is a German grammar and dictionary in ordinary *Roman* type. Nearly all scientific books and periodicals are printed therewith; moreover, when the language is once thoroughly learned, the German type can be easily mastered. At night, a dictionary in German type makes cruel demands on the eyesight.

The internal character of the grammars and dictionaries is more important. The ordinary grammar caters principally for the holiday visitor to Germany, rather than for the student. The exercises show this, being chiefly modelled on *table d'hôte* conversation. I do not aim at specializing the vocabulary; at making special grammars for chemical or theological or mathematical German. What I aim at is introducing the student as soon as possible to the *general philosophical vocabulary*—words like *conception*, *application*, *relation*, &c.—common to all scientific work, and indeed of constant use in all serious writing. The Romans were a military people; hence their vocabulary was largely military; hence boys learning Latin start with a mainly military vocabulary, and afterwards add the terms connected with every-day life (Plautus and Terence are not studied till late). So, the Germans being pre-eminently a philosophical people, we should start with a vocabulary of that kind. Germany is generally taken up at a later stage than French, so that the plea of unintelligibility in exercises constructed on such lines cannot be entertained. It may be said that German *conversation* is aimed at? Why? For the majority of students, ability to read German fluently is the great object. A man who never leaves his native country, but keeps abreast with German thought, is far more cosmopolitan than one who perhaps spends every summer chattering at German spas, but has read nothing.

I would suggest that German scientific books should be read sometimes in schools in preference to pure literature. Intelligent pupils

would see the *use* of German. Thus an abridgment of Wellhausen's "Prolegomena" would be of great interest and profit; or, again, works on chemistry or physics. Hoping some discussion may arise on this subject in the *Educational Times*, I remain,—Yours, R. J. D.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A MEETING of the Council took place at the College, Bloomsbury Square, on the 12th of December. Present—Dr. Wormell, Vice-President, in the Chair; Miss Bailey, Rev. J. O. Bevan, Mr. Bidlake, Mr. Bowen, Mr. Brown, Mr. Butler, Dr. Dillon, Mr. Harris, Rev. Dr. Hiron, Miss Jebb, Mr. Montgomery, Rev. G. P. Pearce, Mr. Pinches, Mr. Reynolds, Mr. Robinson, Rev. Dr. Robson, Mr. Rule, Rev. Dr. Scott, Mr. Sergeant, and Mr. Storr.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the number of entries for the Certificate and Junior Forms Examinations, which had taken place on the 8th to 11th December, was about 10,200. The number of entries for the forthcoming Diploma Examination was about 200.

The use of the College Lecture Hall was granted to the Private Schools Association for holding their Annual Meeting on the 11th of January.

Saturday, the 23rd of January, was fixed as the date of the next Ordinary General Meeting of the members of the College.

The Report of the Examination Committee was adopted.

Professor James Sully, M.A., University College, London, was elected a Member of the Council.

The draft Report of the Council to the General Meeting was considered, and referred to the President, Vice-Presidents, and Dean, for final revision.

The following persons were elected Members of the College:—

Miss E. Burrows, A.C.P., Leaholme, Cirencester.
Mr. A. A. Coles, The Grammar School, East Finchley, N.
Mr. H. F. Reynolds, A.C.P., The Technical School, Stalybridge.
Mr. J. A. Swift, A.C.P., 10 Hounsfield Road, Sheffield.
Miss A. Yelland, A.C.P., Elson House, Leytonstone.

The following books had been presented to the Library since the last meeting of the Council:—

By the AGENT-GENERAL FOR NEW SOUTH WALES.—Report of the Minister of Public Instruction for the Year 1895.
By C. J. CLAY & SONS.—Skinner's Isaiah i.-xxxix. (Cambridge Bible for Schools and Colleges).
By W. B. CLIVE.—Bailey's Tutoria Chemistry (Part I.: Non-Metals).
By HACHETTE & Co.—Jullian's Extraits des Historiens Français du XIXe siècle.
By WHITTAKER & Co.—Boëlle's Toudouze's Madame Lambelle; Davis and Weiss's Auerbach's Schwarzwälder Dorfgeschichten (Selections); Wagstaff's Metric System.
London University Guide and University Correspondence College Calendar, 1896-97.

MATHEMATICS.

13307. (Professor CROFTON, F.R.S.)—If m things are distributed among $n+x$ persons, in such a way that a particular set of n among them must each receive something, prove that the number of possible distributions is $N = \Delta^n x^m$.

Solution by Rev. W. A. WHITWORTH, M.A.

By *Choice and Chance*, Prop. XXI., the total number of distributions is $(x+n)^m$. Then, by Prop. XIV., the number of distributions in which n assigned persons shall receive something is

$$(x+n)^m - C_1^n (x+n-1)^m + C_2^n (x+n-2)^m - \&c. = \Delta^n (x^m).$$

[The rest in Volume.]

13328. (J. J. WALKER, F.R.S.)—Show that the line of ultimate intersection of the planes $ax+by+cz=1$, where the parameters a, b, c are connected by the relation $1+\Sigma a+\Sigma bc=0$, is a generator of the quadric $1+\Sigma x+\Sigma yz=0$.

Solution by W. C. STANHAM, Professor LAMPE, *and others.*

Since $\Sigma bc+\Sigma a+1=0$, $(b+c+1)\,da+(c+a+1)\,db+\ldots=0$ ... (1, 2).

Let (α, β, γ) be any point on the line of ultimate intersection (L), and denote the quadric by (Q); then we have

$$a\alpha+b\beta+c\gamma=1, \quad \alpha da+\beta db+\gamma dc=0 \quad \ldots\ldots\ldots\ldots (3, 4).$$

[The rest in Volume.]

13312. (Professor GENESE.)—Let N be any integer, a, b, c, ..., the prime numbers less than $\sqrt{N}$, and

$$\phi(N) = \{1-\Sigma(1/a)+\Sigma(1/ab)-\Sigma(1/abc)+\ldots)\,N$$

in every operation of which, such as N/a, N/b, N/ab, only the integral part of the quotient is taken. Then, in general, $\phi(N)$ + the number of the primes a, b, c ... = the number, of primes (including unity) less than N; but, if N be the square of a prime number, the result of the count must be diminished by 1.

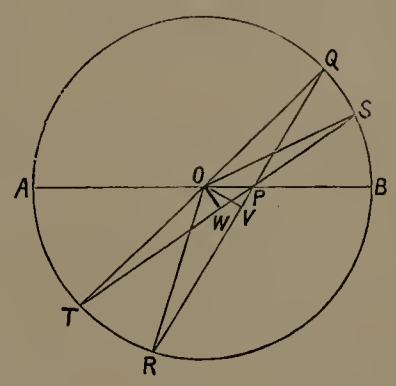
Solution by H. W. CURJEL, M.A.; Professor MUKHOPADHYAY; *and others.*

Let N not be the square of a prime number. The number of numbers not greater than N which are divisible by $x = I(N/x)$. Now any of numbers 1, 2, ... N must be a prime $> \sqrt{N}$ or 1 or be divisible by at least one of a, b, c, ...; therefore number of primes $> \sqrt{N}$, $\not> N = \phi(N)-1$; for, in subtracting $\Sigma I(N/a)$, we have taken away the number of numbers which are divisible by a, b, c, ..., one which is divisible by r different factors (a, b, c, ...) being counted r times; but it is counted $\frac{1}{2}\{r(r-1)\}$, $\{r(r-1)(r-2)\}/3!$, ... &c. times in $\Sigma I(N/ab)$, $\Sigma I(N/abc)$, ... &c.; therefore, $1-(1-1)^r$ times (taking account of signs), *i.e.*, only once. Hence the number of primes $\not> N = \phi(N)$ + number of primes a, b, c, ...

If $\sqrt{N}$ is a prime, the result must be diminished by unity, f or N itself has been treated as a prime in the process; or the exception would be unnecessary if $\sqrt{N}$ were included among a, b, c, ...

13314. (Professor MATZ.)—Find the average area of the random sector whose vertex is a random point in a given circle.

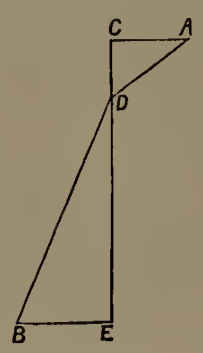
Solution by D. BIDDLE, Professor NATH COONDOO, *and others.*



Assuming the random sector in question to be constituted by two random lines and the intercepted portion of the given circumference, the lines being drawn in any direction through a random point P, and separated by any angle not exceeding π, it would seem that a choice of four values is given on every occasion. Thus we have QPS, RPT, QPT, RPS; and the mean area of these sectors is $\frac{1}{4}\pi r^2$ for every position of P, and for every direction of the lines. Moreover, all the values that would be summed by the method of integration are thus covered. The answer therefore is $\frac{1}{4}\pi r^2$.

13338. (Rev. T. T. ROACH, M.A.)—A man riding from one point to another has to cross, first, a heavy sand on which he can only ride $6\frac{1}{2}$ miles per hour, and then firm grass on which he can ride 10 miles per hour. Find the shortest time in which he can ride, given that the perpendicular distances of the two points from a straight road separating the two districts are 4 and 5 miles, respectively, and that the feet of the perpendiculars are 15 miles apart.

Solution by Rev. J. CULLEN, B.A.; Professor SWAMINATHA; *and others.*



Let x be the distance between the point where he crosses the road and the foot of the shorter perpendicular, and t the time. Then

$$t = (x^2+16)^{\frac{1}{2}}/6\tfrac{1}{2} + \{25+(15-x)^2\}^{\frac{1}{2}}/10.$$

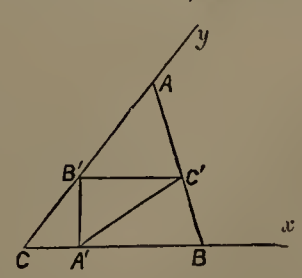
$dt/dx = 0$ gives a quartic which may be written

$$\{77x^2(x-27)+13520(x+5)\}(x-3) = 0.$$

The first factor does not vanish for any value of x between 0 and 15. Hence we have $x=3$ and the respective distances 5 and 13; whence $t = 2{\cdot}0692$ hrs., *i.e.*, 2 hrs. 4 mins. 9·12 secs.

13303. (Professor NEUBERG.)—Sur les côtés BC, CA, AB d'un triangle ABC, on marque les sommets A′, B′, C′ d'un triangle A′B′C′ dont les côtés a', b', c' vérifient la relation donnée $\alpha a'^2+\beta b'^2+\gamma c'^2=0$. ($\alpha$) Si l'on donne le point C′, la droite A′B′ enveloppe une courbe de la quatrième classe. (β) Si l'on donne les points A′, B′, le point C′ occupe sur AB deux positions C'_1, C'_2. Les points C'_1, C'_2 coïncident, lorsque la droite A′B′ enveloppe une certaine courbe de la quatrième classe. (γ) Enfin, si les points A′, B′, C′ sont sur une même droite, cette droite enveloppe une certaine courbe de la quatrième classe.

Solution by H. W. CURJEL, M.A.; Prof. NATH COONDOO; *and others.*



Take CB, CA as axes of x and y; let

$CA' = 1/l$, $CB' = 1/m$, $AC' = k$.

Then equation to A′B′ is $lx+my=1$, and the condition $\alpha a'^2+\beta b'^2+\gamma c'^2=0$ becomes

$$\alpha\{k^2+[b-(1/m)]^2 - 2k[b-(1/m)]\cos A\}$$
$$+\beta\{(c-k)^2+[a-(1/l)]^2 - 2(c-k)[a-1/l)]\cos B\}$$
$$+\gamma\{(1/l^2)+(1/m^2)-[(2\cos C)/(lm)]\} = 0 \quad \ldots\ldots\ldots\ldots (1),$$

a quartic in l, m; hence A′B′ envelopes a curve of the fourth class.

[The rest in Volume.]

13321. (D. Biddle.)—Standing within a circular cinder-track, whilst A. and B. cycle round it, I observe that each is going at a uniform rate, but that B., who has been handicapped, is gaining on A., their relative speeds being 10 : 9. As A. crosses the further extremity of the diameter on which I am standing, the arc between him and B. subtends, from my point of view, an angle of 40°. I then turn my back on the centre, and, as A. crosses the other extremity of the diameter, I observe that the corresponding angle between the riders is 50°. Find (1) my position on the said diameter, (2) the point at which B. will catch up A., their speeds remaining the same.

Solution by Rev. J. Cullen, B.A.; Professor Sarkar; *and others.*

$APB = 40°$ and $A'PB' = 50°$;

$\therefore\ x/a = \sin(\phi-40)/\sin 40$
$= \sin(50-\psi)/\sin 130.$

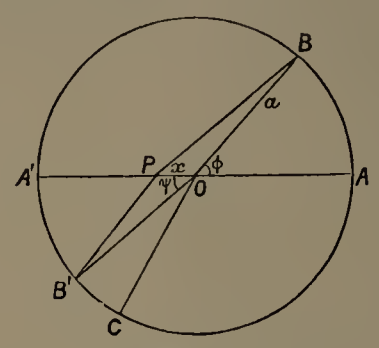
Also $BAB'/AB'A = (\phi+180-\psi)/180$
$= 10/9;$

$\therefore\ \phi-\psi = 20°.$

Hence $x/a = \sin(\psi-20)/\sin 40$
$= \sin(50-\psi)/\cos 40.$

$\therefore\ \psi = 33°\,39'\,25''$

and $x = \cdot 3673263a.$

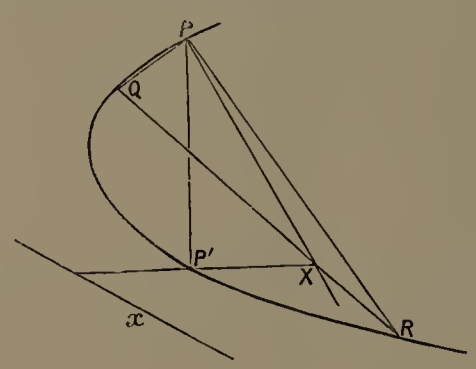


[The rest in Volume.]

13327. (R. Knowles, B.A.)—PQ, PR are chords of a parabola at right angles; prove that (1) the locus of the pole of QR is a right line; (2) as P varies, the envelope of this locus is an equal parabola.

Solution by H. W. Curjel, M.A.; Professor A. Droz-Farny; *and others.*

If PP′ is a chord perpendicular to the axis, QR always passes through X, the intersection of the normal at P with the diameter through P′. Therefore locus of the pole of QR is x, the polar of X; also x is clearly parallel to the tangent at P′, and its distance from P′, measured along the diameter through P′ = P′X = $4a$. Therefore the envelope of x is an equal parabola with the same axis, and distance between the vertices = $4a$.

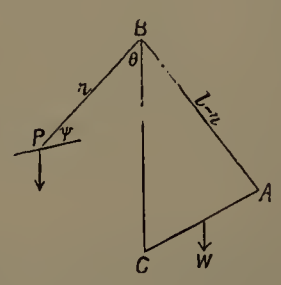


13290. (Rev. J. Cullen, B.A.)—One end of a heavy beam lying in a horizontal plane is fastened by a hinge to the bottom of an upright post. To the other end of the beam is attached a light rope passing over a pulley at the top of the post. Find the curve in which a weight fastened to the rope must slide in order that the system may be in equilibrium for all positions of the beam; neglecting friction and assuming the weight and beam to move in the same vertical plane.

Solution by H. W. Curjel, M.A.; Professor Gopalachanar; *and others.*

Let BC be the post, CA the beam (weight W), P the weight, and l the length of the rope. Let $BP = r$, $\angle PBC = \theta$, and angle between the tangent at P to the curve and $BP = \psi$.

$$\text{Tension of rope} = \frac{W\frac{1}{2}b\sin C}{b\sin A} = \frac{W.c}{2a}$$
$$= \frac{W(l-r)}{2a},$$



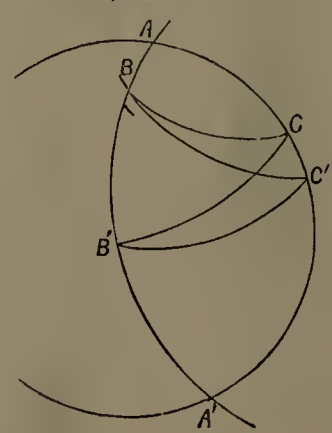
and $$\cos(\theta+\psi) = \frac{W}{2Pa}(l-r)\cos\psi = \frac{2(l-r)}{h}\cos\psi \text{ (say).}$$

[The rest in Volume.]

13219. (R. W. D. Christie.)—Prove that the sum of the angles in a right-angled primitive spherical triangle is less than three right angles.

Solution by Professors Jeffares, Nath Coondoo, *and others.*

Let ABC be a spherical right-angled triangle, having A the right angle. With A as centre and an arc of 90° as radius, describe on the sphere the arc B′C′, meeting the sides of the triangle ABC in B′, C′. Join B′C and BC′ (of course with arcs of great circles). Since B′A = 90° and B′C′ = 90° (since it measures the angle A), therefore B′ is the pole of AC′ and C′ the pole of AB′. Now B′C is a secondary circle to AC′, and therefore at right angles to it. ∠ACB is less than a right angle; similarly ABC is less than a right angle.



[The rest in Volume.]

13311. (Professor Schwatt.)—The Simson-line belonging to one point of intersection of Brocard's diameter of a triangle with the circumcircle of this triangle is either parallel or perpendicular to the bisector of the angle formed by the side BC of the triangle ABC and the corresponding side B′C′ of Brocard's triangle.

Solution by H. W. Curjel, M.A.; Professor Gopalachanar; *and others.*

Let POP′ be any diameter of the circumcircle of △ABC. Let ZXY be the Simson-line of P, and let ZP, PY meet the circle in C_1, B_1. Then

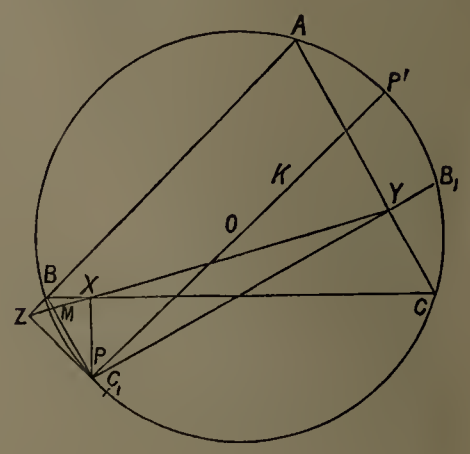
$\angle PZX = \angle PBX = \angle PAC,$

and $\angle ZPX = \angle ABC = \angle APC,$

and PB is a diameter of ⊙BZPX; therefore figures BZPX, P′APC are similar; therefore, if PB, PP′ cut XZ, CA in M, N,

$PM : MB = PN : NP'$
$= PY : YB_1;$

therefore BB_1, ZY are parallel.



[The rest in Volume.]

13324. (W. J. Dobbs, M.A.)—Four fine light rods are smoothly jointed at their extremities to form a quadrilateral which can be inscribed in a circle. The opposite joints are connected by two fine light strings in a state of tension. Prove that the thrusts in the rods and the tensions of the strings are proportional to the opposite sides and diagonals of the quadrilateral, respectively.

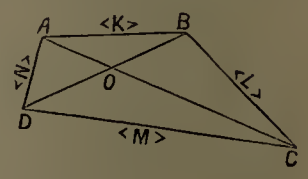
Solution by Rev. J. Cullen, B.A.; Professor Nath Coondoo; *and others.*

Let K, &c., be the thrusts along the rods, P and Q the tensions along AC and BD.

We have $$K = P\frac{OD.AB}{OA.BD}$$

(Walton's *Problems*, p. 101);

also $$M = P\frac{OB.CD}{OC.BD}.$$



[The rest in Volume.]

13206 & 13267. (R. Chartres.)—If a number a be divided at random into n parts, find the mean value of the mth power of one of the parts, with its geometrical application.

(13267.) (R. Chartres.)—If a point P be taken at random in a triangle, and lines PQ, PR be drawn parallel to the sides, prove that the mean value of $QR = \frac{1}{3}a$, and the mean value of $QR^2 = \frac{1}{6}a^2$, or the mean value of $PQR = \frac{1}{6}\Delta$; also, if three points P, Q, R be taken at random in a triangle ABC, and DE, DF, EF be drawn through them parallel to the sides, then the mean value of $PQR = \frac{1}{4}DEF$, of $DEF = \frac{1}{3}\Delta$; therefore of $PQR = \frac{1}{12}\Delta$.

Solution by R. Chartres, Professor Gopalachanar, *and others.*

Let a be divided at random into n parts, x, y, z, &c.; then

$$a^m = (x+y+z+\ldots)^m, \text{ which has } \frac{n(n+1)\ldots(n+m-1)}{m!} \text{ terms;}$$

therefore the mean value of any one term, as x^m,

$$= a^m \div \frac{n(n+1)\ldots(n+m-1)}{m!}.$$

Cor. 1. If $n = 2$, $m = 2$, then the mean value of $x^2 = \frac{1}{3}a^2$ and of $xy = \frac{1}{6}a^2$.

Cor. 2. If $n = 3$, $m = 2$, the mean value of $x^2 = \frac{1}{6}a^2$ and of $xy = \frac{1}{12}a^2$.

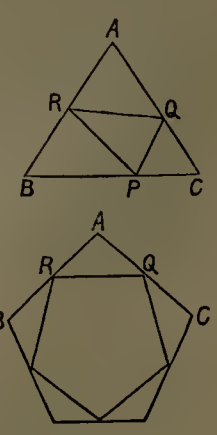
Geometrical Application.—If three points P, Q, R be taken at random in the sides of a triangle, one in each side, then the mean value of each triangle, as AQR, $= \frac{1}{4}\Delta$.

Hence, if n points be taken at random, one in each side of a regular polygon of n sides, the mean value of the inscribed figure

$$= \cos^2(\pi/n),$$

if the area of the original polygon be unity, since the mean value of AQR

$$= \tfrac{1}{4}ABC.$$



[The rest in Volume.]

13152. (Rev. T. Wiggins, B.A.)—Given a conic with focus S, and P, Q any two points on it; if the sum of SP, SQ is constant, find the locus of the middle point of PQ.

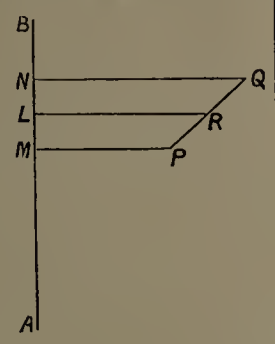
Solution by Professors RADHAKRISHNAN, A. DROZ-FARNY, *and others.*

If AB be the directrix,

$$SP = e \,.\, PM,$$
$$SQ = e \,.\, QN.$$

If R be the middle point of PQ,

$$RL = \tfrac{1}{2}(PM + QN)$$
$$= \tfrac{1}{2}\left(\frac{SP}{e} + \frac{SQ}{e}\right)$$
$$= \frac{1}{2e} \,.\, \text{a constant.}$$



Therefore the locus of R is a line parallel to AB.

QUESTIONS FOR SOLUTION.

13375. (Professor SYLVESTER, Athenæum Club, 18*th Dec.*, 1896.)—

If $$\frac{Fx}{(1-x)^n} = 1 + 2^{n-1}x + 3^{n-1}x^2 + \&c.,$$

prove that Fx is a symmetrical function of the degree $(n-2)$ in x, the sum of whose coefficients is the factorial of $(n-1)$.

Ex.—Let $n = 5$. Call $Fx = 1 + Bx + Cx^2 + Dx^3$; by the rule given above, $D = 1$, $C = B$, and $1 + B = 12$, so that $B = 11$, $C = 11$, $D = 1$, and accordingly

$$\frac{1 + 11x + 11x^2 + x^3}{(1-x)^5} = 1 + 16x + 81x^2 + 256x^3 + \ldots.$$

Let $n = 6$. Call $Fx = 1 + Bx + Cx^2 + Dx^3 + Ex^4$. Then obviously $B = 32 - 6 = 26$, and, by our rule, $D = 26$, $E = 1$, and $C = 120 - 54 = 66$. So, if $n = 7$, if $Fx = 1 + Bx + Cx^2 + Cx^3 + Bx^4 + x^5$, we have $B = 64 - 7 = 57$, $C = \frac{126}{2} - 58 = 302$, and it will be found that

$$\frac{1 + 57x + 302x^2 + 302x^3 + 57x^4 + x^5}{(1-x)^7} = 1 + 64x^2 + 729x^3 + 4096x^4 + \ldots.$$

Thus, with scarcely any work of computation, we may find the following table of coefficients in Fx corresponding to all values of n from 1 to 9 inclusive, viz.: 1; 1; 1, 1; 1, 4, 1; 1, 11, 11, 1; 1, 26, 66, 26, 1; 1, 57, 302, 302, 57, 1; 1, 120, 1312, 2416, 1312, 120, 1; 1, 247, 3693, 16219, 16219, 3693, 247, 1.

13376. (Professor NEUBERG.)—Soit ABCD un quadrilatère tel que $(AB)^2 + (CD)^2 = (BC)^2 + (DA)^2$. Si l'on divise chaque côté en deux segments proportionnels aux carrés des côtés adjacents, les quatre points ainsi obtenus sont concycliques.

13377. (Professor C. COCHEZ.)—Etudier la fonction $y = x^{1/(x-1)}$.

13378. (Professor SANJÁNA.)—Has the amount of *precession* been always the same? If not, why not? In what constellation, and near which stars (of not less than fifth magnitude), was the Sun at the Vernal Equinox in 475 A.D.? Describe, by means of such stars, the arcs of the heavens described by the Vernal Equinox from 0 to 950, 950 to 1900, 1900 to 2850, and 2850 to 3800 B.C. [These inquiries have reference to the date of the *Vedas* and the *Brahmanas*. During 950 years the Equinox occupies an arc of 13° 15′, which is approximately the extent of one *lunar asterism*.]

13379. (Professor CROFTON.)—Prove that every prime number of the form $4m + 1$ is the sum of two squares.

13380. (Professor RAMASWAMI AIYAR.)—Upon every diameter of a given ellipse as major axis a similar ellipse is described. Prove that (1) all the ellipses thus described touch two fixed straight lines and two fixed conics; (2) if a system of similar ellipses have a common diameter, they touch two fixed circles; and (3) give also a direct geometrical proof of the latter property.

13381. (Professor DROZ-FARNY.)—On considère toutes los paraboles qui passent par deux points fixes A et B et dont les directrices passent par un troisième point fixe C. Quel est le lieu de leurs foyers? Que devient le lieu si les trois points sont en ligne droite?

13382. (Professor NANSON.)—If u, v are n-ary quadrics in $x_1, \ldots x_n$, and $I_m = \int \ldots \int v^m dx_1, \ldots dx_n$, the limits being given by $0 \leqslant u \leqslant 1$, u being definite and positive, prove that $\delta I_m = -(\frac{1}{2}n + m + 1)\, I_{m+1}$, where

$$\delta = a'(d/da) + b'(d/db) + \ldots,$$

a, b, ... being the coefficients of u, and a', b', ... those of v. Hence express I_m in terms of the invariants of u, v, m being a positive integer.

13383. (Professor DELLAC.)—Avec les $2n$ éléments $\pm a, \pm b, \pm e, \ldots \pm l$, on forme 2^n polynômes, renfermant chacun *une* des lettres a, b, e, ... l, et on élève ces polynômes à la puissance p, en mettant devant cette puissance le signe + ou le signe −, suivant que le nombre des éléments négatifs du polynôme est pair ou impair. Soit A_n^p la somme algébrique de tous ces termes. Démontrer que (1) la fonction A_n^p est nulle pour toute valeur de p inférieure à n, et aussi pour toutes les valeurs de p qui surpassent n d'un nombre impair; (2) $A_n^n = 2^n \times 1.2.3 \ldots n \times abc \ldots \kappa l$;

(3) $A_n^{n+2} = 2^n \times 4.5.6 \ldots (n+2) \times abc \ldots \kappa l \times (a^2 + b^2 + c^2 \ldots + l^2)$;

(4) $A_2^{2q} = \dfrac{4.2q}{1} b.a^{2q-1} + 4b^3 \dfrac{2q(2q-1)(2q-2)}{1.2.3} a^{2q-3} + \ldots$;

(5) $$n^n - n(n-2)^n + \frac{n(n-1)}{1.2}(n-4)^n - \ldots + (-1)^p \frac{n(n-1)(n-2)\ldots(n-p+1)}{1.2\ldots p} \times (n-2p)^n + \ldots + (-1)^n(-n)^n = 2^n \times 1.2.3\ldots n.$$

13384. (EDITOR.)—In a given circle inscribe a quadrilateral having one side of given length, the two adjacent sides passing through a given point, and the rectangle under the distances from two given points to the intersection of its diagonals a minimum.

13385. (H. B. BILLUPS.)—Prove that (1) a, $-b$, $-c$ are the roots of the equation

$$x^3 + 2(s-a)x^2 + \left\{(s-a)^2 + r_a^2 - 4Rr_a\right\}x - 4Rr_a(s-a) = 0;$$

and (2) $\cos A$, $-\cos B$, $-\cos C$ are the roots of

$$4R^2x^3 + 4R(r_a - R)x^2 + \left\{(s-a)^2 + r_a^2 - 4R^2\right\}x - (s-a)^2 + (2R - r_a)^2 = 0,$$

so that the triangle is acute-angled or obtuse-angled according as $s - a$ is numerically greater or less than $2R - r_a$.

13386. (H. MACCOLL, B.A.)—Show that the fifteen *valid* syllogisms of the common logic (excluding the four defective syllogisms, *Darapti*, *Felapton*, *Fesapo*, *Bramantip*) may be converted into mathematical syllogisms as follows: Considering each letter as representing a mathematical quantity (positive or negative, integral or fractional, real or imaginary), for every proposition of the form "all α *is* β," substitute "α is a multiple of β" (that is, "α/β is a real integer"); for "no α is β," put "$\alpha\beta$ is an integer"; for "some α is not β," put "α is not a multiple of β"; and for "some α is β," put "$\alpha\beta$ is not an integer." What is the weakest premiss that must be added to the two given premisses in each of the four defective syllogisms (in their logical or mathematical form) to make these also valid? [Definition:—x is said to be the *stronger* and y the *weaker* proposition, when x implies y but is not implied in y.]

13387. (R. F. DAVIS, M.A.)—Employing the rotation of SALMON, prove that if the general equation of the second degree represent a parabola, $Fx + Gy = H$ is the equation to the focal chord, the tangents at whose extremities are parallel to the rectangular axes; its pole $A/2G$, $B/2F$ lies on the directrix; the focus is determined by the equations $Fx + Gy = H$ and $Gx - Fy = \frac{1}{2}(A - B)$; and the equation to the directrix is $Gx + Fy = \frac{1}{2}(A - B)$.

13388. (W. J. GREENSTREET, M.A.)—A conic cuts the sides of a triangle ABC in D, D′; E, E′; F, F′, respectively. The tangents at D, D′ meet AB, AC in K, K′; L is the fourth harmonic of B with respect to F, F′; M that of C with respect to E, E′. Show D′L, DM, KK′ are concurrent.

13389. (G. N. BATES.)—Prove that, if in Quest. 13332 the line AF is divided into n parts, the rest of the construction being the same,

$$AG^2 = R^2\left\{n^2 + 4n + 16 - (n-4)(n^2 + 16n - 32)^{\frac{1}{2}}/2(n^2 - 2n + 4)\right\}.$$

13390. (D. BIDDLE.)—Construct the triangle of which AD, BE, CF are the unknown perpendiculars, having given the three products BC. CD, CA . AE, AB . BF.

13391. (R. W. D. CHRISTIE.)—Prove that the solutions of $X^2 - 5Y^2 = -4$ are $X = a^2 - b^2 + 4ab$, $Y = a^2 + b^2$, where a and b are any two successive numbers of terms in a *continuant*.

13392. (P. W. FLOOD.)—From a given point in the diameter produced of a given semicircle, draw a line cutting the circumference in two points such that, if perpendiculars be drawn from them on the diameter, their rectangle will be given.

13393. (R. CHARTRES.)—If two points, P and Q, be taken at random in the sides AB, AC of a triangle, find (1) the mean value of the area of the circumcircle of PAQ, and (2) the nth power of the triangle PQR if R be a random point in BC.

13394. (H. ORFEUR.)—Besides the circle, there is another curve possessing the property radius of curvature = radius vector. How may it be analytically described? Show that it is a particular involute of the involute of a circle.

13395. (H. W. CURJEL, M.A.)—Calling an infinite Euclidean hyperspace of n dimensions an S_n, show that, if pS_{n-1}'s are drawn in an S_n, they will in general divide the S_n into v_n finite and u_n infinite compartments,

where $$v_n = \frac{(p-1)(p-2)(p-3)\ldots(p-n)}{n!},$$

$$u_n = 2\left\{1 + (p-1) + \frac{(p-1)(p-2)}{2!} + \&c. \text{ to } n \text{ terms}\right\}.$$

13396. (A. E. JOLLIFFE, M.A.)—P and P′ are two points on a

conic α. Tangents from P to a conic β meet α again in M and N and P′M, P′N meet β in the points A, B, C, D. The tangents from P′ to β meet α again in M′ and N′, and PM′, PN′ meet β in A′, B′, C′, D′. Prove that a cross ratio of the pencil formed by joining A, B, C, D to any point of β is equal to a cross ratio of the pencil formed by joining A′, B′, C′, D′ to any point of the same conic.

13397. (Rev. W. A. Whitworth, M.A.)—Show that the number of orders in which we can write down $3n$ letters, n alike and n alike and n alike, without two letters alike coming together is

$$2\left\{C_{n+1}^{2n+1}+\kappa_0\kappa_1 C_{n+1}^{2n}+\kappa_1\kappa_1 C_{n+1}^{2n-1}+\kappa_1\kappa_2 C_{n+1}^{2n-2}+\kappa_2\kappa_2 C_{n+1}^{2n-3} + \&c. \text{ to } n+1 \text{ terms}\right\}$$

where κ_r denotes C_r^{n-1}. Can this series be summed?

13398. (W. J. Dobbs, M.A.)—Four fine light rods are freely jointed at their extremities to form a convex quadrilateral framework ABCD, which is stiffened by another fine light rod connecting B, D. A mass of weight W is suspended from B, and the whole system is supported with DB vertically downwards by vertical forces applied at A and C. Prove that, if T is the tension of the rod DB, and E the point where the straight line AC intersects BD, T : W = DE : DB.

13399. (Rev. J. Cullen, B.A.)—Find the general term and the sum to n terms of the series

$$1+2+16+77+391+1952+\ldots.$$

NOTICE TO CORRESPONDENTS.

Owing to the Mathematical Editor's illness, it is requested that, till further notice, all Mathematical communications should be sent, not to the Editor's private address as heretofore, but to

Messrs. Hodgson, 2 Newton Street, High Holborn, London, W.C.

NOTICE.—Vol. LXV. of the "Mathematical Reprint," is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.*; *to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

Thursday, December 10, 1896.—Prof. Elliott, F.R.S., President, in the Chair. The following gentlemen were elected members:—J. B. Dale, B.A., late Scholar of St. John's College, Cambridge; C. S. Jackson, M.A., R.M. Academy, Woolwich; and A. W. Ward, M.A., Professor of Mathematics and Physics, Canning College, Lucknow. Mr. S. S. Hough, M.A., was admitted into the Society. Present twenty-two members and four visitors. After the Auditor's report had been read, the Treasurer's report was accepted, and the usual complimentary votes to the Auditor and Treasurer were carried unanimously and suitably acknowledged.

Major MacMahon, R.A., F.R.S., gave a sketch of the result arrived at in Prof. Sylvester's note "On a Discovery in the Theory of Denumeration." In connexion with the paper the President announced that Prof. Sylvester had given permission to the Society to publish the "Outline of Lectures on the Partitions of Numbers," which he read at King's College, London, in June, 1859, and which had never been published; and that the Council had arranged to print the "Outline" as a companion to the late President's Valedictory Address.

Mr. Burbury, F.R.S., communicated a portion of his paper "On the Stationary Motion of a System of Equal Elastic Spheres of Finite Diameter."

Mr. Hough read a paper "On the Influence of Viscosity on Waves and Currents."

Mr. Macfarlane Gray gave a description of his Multiplying Apparatus.

Messrs. C. V. Boys, F.R.S., Dewar, Greenhill, F.R.S., Hudson, and others, joined in a discussion of points connected with the subject of Mr. Gray's communication.

Lt.-Col. Cunningham, R.E., gave an account of results arrived at in a paper "On the Connexion of Quadratic Forms"; upon a portion of the results Mr. C. E. Bickmore, M.A., made a few supplementary remarks.

The following papers were communicated by their titles:—

"Concerning the Abstract Groups of Order $\kappa!$ and $\frac{1}{2}\kappa!$ Holoedrically Isomorphic with the Symmetric and the alternating Substitution Groups on κ Letters," by Prof. E. H. Moore, Ph.D.;

"On a Series of co-Trinodal Quartics," by Messrs. H. M. Taylor, M.A., and W. H. Blythe, M.A.;

And "On Finite Variations," by Mr. E. P. Culverwell, F.T.C.D.

The following paper has been received for the January meeting (January 14):—

"Supplementary Note on Matrices," by J. Brill, M.A.

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THE

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AND

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The Educational Times.

The Editor will be glad to consider any Manuscript which may be submitted to him, whether of short special articles or of concise Correspondence on questions of present educational interest. He will also endeavour to give publicity to contributed items of news relating to Secondary Schools, Colleges, and the general interests of Education.

*All such communications should be addressed to the Editor of the "*Educational Times,*" 89 Farringdon Street, E.C. They must be authenticated by the names of the writers; and, if a stamped and addressed envelope is enclosed, unsuitable Manuscripts will be returned.*

New Developments.

The new session of Parliament has opened without any distinct promise, and with very little prospect, of a Secondary Education Bill. But we are bound to say that, in one very important respect, the situation has been materially altered since we last considered it. We wrote a month ago:—

"What we look for next is, not a Bill, or a vague promise of a Bill, but evidence that the Government are prepared to create a Central Authority and a Council for secondary education."

What we looked for has come sooner than we expected. On January 14, at the Drapers' Hall, the Duke of Devonshire said:—

"The principles which he trusted would underlie any measure which the Government might ultimately find itself able to introduce . . . had been accepted: . . . first the necessity of remodelling the central authority . . . to combine the knowledge of endowed schools, of organized science schools, of science and art schools, of higher-grade Board schools"; secondly, the necessity for local Secondary Authorities; and "thirdly, something in the nature of an Educational Council," on representative principles, which "ought to form part of the central authority."

This declaration commits the Government to what we have always described as a condition indispensable for the acceptance of secondary Local Authorities; and it even seems to commit them virtually to a secondary Register. Thus, as we have said, the situation is materially altered; and, to that extent, the manifest dangers connected with the creation of new local bodies, with a certain amount of control over secondary schools—dangers on which we have never ceased to insist—are diminished.

The danger is diminished: it does not disappear. We are keenly conscious of this danger; and, if the associations of secondary teachers, which accepted the recent invitation of the College of Preceptors to meet and discuss the question *pro domo sua*, from the professional standpoint, had recognised the magnitude of the peril which faces us, we might by this time have been able to place before the country and the Government a clear and reasoned statement of the question at issue.

This clear and reasoned statement we do not get, and the Government have not got, from the resolutions of the Joint Committee. What we do get from those resolutions is a fundamental presumption that the State is to give the control of secondary education into the hands of the County Councils. It is true that the Joint Committee demanded a central authority and a Council "to advise the Minister"; but the local authority is the essence of their scheme—a local authority nominated by the County Councils, under a scheme "advised on" by a consultative Education Council, whose action is to be checked only by an appeal to the "Central Authority."

What, then, has become of the idea of an appellate Council, the only kind of Council which could afford any guarantee for the impartial treatment of existing secondary schools? As the matter now stands, the Duke of Devonshire is entitled to suppose that he has before him the matured ideas of the teaching profession. So far as we are aware, he has had no opportunity of hearing what secondary schoolmasters think about the danger of virtually unchecked Local Authorities, and about the minimum of guarantees and safeguards which are required in the interests of secondary education.

We cannot profess to be surprised at the renewed alarm which has been raised in some quarters by this latest version of the demand for secondary legislation. The feeling is natural. It found vent at the General Meeting of the College, on January 23, and it is expressed with much vigour by the new President of the Private Schools Association, to whose address we refer in our Summary of the month. Mr. George Brown states with perfect fairness three alternative policies, and tells us what, in his opinion, ought to be the attitude of private schoolmasters in regard to each of them.

First, the suggestion of the Joint Committee—a Minister and an amalgamated Department, an Education Council and Local Authorities. This, says Mr. Brown, is "a large order—too large, I am persuaded, for the present Government to undertake, and it may at once be dismissed." We are not so sure of that. If the Government wanted to level our secondary education, to melt it down and run it into new grooves, under County Council and State control, we rather think that they would jump at the suggestion made to them, which is State and County Council pure and simple. Secondly, there is the plan of the late Bill, on which we need not waste our breath, for the Bill is dead, and its principle with it. Thirdly, there is the policy advocated by Mr. Brown himself—to promote technical education on the broadest lines and with the utmost zeal, to bring in Bills for registration and the training of teachers, and to let the rest alone.

We should be quite in accord with this, but for one consideration. You cannot let the rest alone. That would mean an

indefinite multiplication of Higher Grade Board Schools, for if there is to be no delimitation there will be a very large extension; it would mean a similar multiplication of Organized Science Schools under South Kensington grants; it would mean the continued expenditure of three-quarters of a million annually by the County Councils, without a penny of parallel aid to efficient non-technical schools; it would mean, in these and other ways, ruin to many private schools, and stagnation to many endowed schools (with the consequent dismissal of their masters). You cannot let it alone; and, if you did, it would not let you alone. It is the pressure of facts, not of individuals, which has made change and re-organization necessary.

We are in sympathy with a great deal of Mr. Brown's independent manifesto; but we cannot agree with him when he says that "there appears to be no real dissatisfaction with existing secondary education." If all that he means by his new policy is: "Develop and organize the technical side as much as you like; build new schools, give grants and scholarships, inspect and examine all who come to you for aid, but leave our private schools, which do not come to you for aid, to fight their own battle, free and untouched"—then we agree at once, without the least reserve. That is precisely the position in which private schools were placed by the Royal Commission.

We cannot see what good will be effected by or for the private schoolmasters if they bid the State reserve all its aid for technical schools, which cannot fail to become more and more competitive, and if at the same time they repudiate the well considered guarantees, safeguards, appeals, and electoral representation which were provided by the Commissioners.

In a word, it seems to us, as it has seemed from the beginning of the whole controversy—certainly from the day when higher-grade schools began to multiply, and when the effects of the technical grants became apparent—that there is only one wise, consistent, or even possible course open to the general body of secondary schoolmasters, whose interests are practically identical, whether their schools are private or endowed. That course is, not to oppose the advancing tide with a broom, but to demand equal treatment for all efficient schools, to claim that all bodies having secondary control shall include an appreciable element of members elected by a secondary electoral register, to insist on the removal of the technical ear-mark, on the maintenance of freedom, variety, and elasticity, and, above all, on the control of the local authority by the two-fold restraint of a responsible Central Authority and an appeal to a representative Education Council. That is the position which has always been taken up by the College of Preceptors, in its resolutions of 1893, by its delegates at the Oxford and Cambridge Conferences, in its evidence before the Royal Commission, in the resolutions of the College Conference of January, 1896, and by the consistent public utterances of all who have had authority to speak in its name.

One or two speakers at the General Meeting of the College seemed to suggest that the Council ought to assume an attitude of opposition to "the scheme of the Commissioners," and that it is especially bound to do so as the representative and champion of private schoolmasters. Now, in the first place, the policy of the College, as we have just described it, is conceived in the interests of scholastic independence, dear and necessary alike to the masters of all secondary schools, and, if any distinction can be made, especially valuable to the private schoolmaster. Next, the attitude of the College towards the Report of the Commissioners has always been one of criticism, and of insistence upon the fullest effectuation of the guarantees proposed in that Report. Lastly, if it should appear to the Council, whether in the exercise of its judgment or on the inducement of new facts and argument, that the interests of education, and of the general body of teachers whom the College represents, demand a more pertinent and detailed—not to say a more combatant—attitude, in view of the dubious possibilities of the future, it is only a matter of course that such an attitude would be immediately taken.

In the meantime, we are convinced that it does not lie in the power, or in the desire, of anyone to say that the College has celebrated the fiftieth year of its existence by overlooking the best and truest interests of the independent schoolmaster. We admit that the resolutions of the Joint Committee do not add force to the contentions of those who dread an excess of interference, and who would have preferred at this moment to emphasize the importance of "freedom, variety, and elasticity." But the representative of the College on that Committee, seeing that great stress was laid on the demand for a Central Authority and a Council, and that there was a hope of securing from the Lord President a declaration in their favour, thought, and rightly thought—as also did the representative of the Private Schools Association—that it was better to mark this definite step in advance than to precipitate a disagreement on other points.

Feeble Minds.

An admirably lucid and highly important volume on "Juvenile Offenders," written by Mr. Douglas Morrison, and published by Mr. Fisher Unwin, makes its appearance at what might be called, in two distinct senses, "the psychological moment." In the first place, the Education Department has just appointed a Committee to report on the education of children of defective intellect. The Committee are instructed to inquire into the existing systems for the education of feeble-minded and defective children, not under the charge of guardians, and not idiots or imbeciles, and to advise as to any changes, either with or without legislation, that may be desirable; to report particularly upon the best practical means for discriminating between the educable and non-educable classes of feeble-minded and defective children, and between children who may properly be taught in ordinary elementary schools by ordinary methods and those who should be taught in special schools; and to inquire and report as to the provision of suitable elementary education for epileptic children, and to advise as to any changes that may be desirable. The terms of reference are, for the most part, sufficiently clear. It is fortunate for the Committee that they are not asked to say how many children of defective intellect there are in this country, or by what signs and tokens the deficiency may be ascertained. It would puzzle the most confident psychologist to draw a sharp line of distinction amongst the intellects of a hundred children taken from the nearest Board school, or straight from their homes. Of course, if psychologists cannot do this, nobody else can; and, as the doing of it is a great assistance in elementary education, it is certainly incumbent on the psychologists to try.

The Committee appointed by the Education Department—a picked body of men and women on whose judgment we have every disposition to rely—are asked to report "particularly

upon the best practicable means of discriminating between the educable and non-educable classes of feeble-minded and defective children," and further to say how many of the less defective may be taught in the ordinary schools, by the ordinary methods. Clearly if the members of the Committee are to answer these questions aright, they should be psychologists every one—and the presumption is that they are. For the reference covers the whole scale of graduated deficiency, between the weakest of sane and competent intellects and the absolutely uneducable idiots and imbeciles. We have no doubt that Mr. Sharpe and his colleagues will treat this elusive subject in its proper mental perspective, and that they will produce for our guidance at any rate a few definite workable rules. We need hardly commend to their notice Mr. Morrison's very thoughtful and practical volume on "Juvenile Offenders," for it is one which cannot possibly escape the notice of a psychologist. The Chaplain of Wandsworth Gaol is so fully alive to the intimate relations between the morals and the intellect, between the education and the behaviour of the young, and he brings forward so many statistics and reasonable inferences from the human area within which he is an acknowledged expert, that no one who concerns himself in any way with the education of feeble-minded and defective children can afford to neglect his book. Mr. Morrison has no difficulty in showing that a large proportion of juvenile offenders—that is to say, of children who have been detected in acts which are legally criminal, who have been charged before a magistrate, and either punished or sent to a reformatory or an industrial school—are of defective intellect. Not many of us, it may be, have had anything to do with such children, though unhappily, from time to time, boys do pass from the quiet haven of a secondary school to a prison cell. But is there a single schoolmaster who can say that he has never had under his charge a boy of criminal tendency, or of intellect so deficient as to make him an easy prey to crime? We should have grave doubts of the competence of any schoolmaster who claimed entire immunity from such experience, or who would not admit that the treatment of intellect and the treatment of morals are virtually inseparable. In other words, a schoolmaster must be a psychologist. As things work now with us, the Mere B.A. commences usher in absolute ignorance of this, or in superior scorn of it. He blunders into the truth sooner or later, after suffering himself and making his pupils suffer. But he does not always admit, even then, that it is better for a young man to read and discuss books on education before he begins to educate, and that it is possible to learn something useful even after one has graduated.

NOTES.

The lecture courses at the College of Preceptors Training College will begin on February 3, when the Principal of the College will inaugurate the new term with the first of a series of lectures on the "Practice of Education." This course will extend into July, and will include an inquiry into school discipline and professional training, physical education, and the various branches of the ordinary school curriculum. On the same day, Dr. W. S. Colman will deal with "Physiology and School Hygiene," and this course will be continued twice a week up to Easter. On February 11, Professor Sully will begin his course of Thursday evening lectures on "Child Psychology in its bearings on Education"; and, later in the year, there will be courses on the theory and practice of modern-language teaching and on elocution. This is an interesting programme of lectures, and it is supplemented by visits to secondary schools and discussions on practical school management. It was satisfactory to be told at the general meeting of the College that Dr. Findlay's students were already occupying important positions, and bearing witness to the immediate advantage of systematic secondary training.

The full report presented by Sir Philip Magnus and his brother Commissioners, as the outcome of their recent inquiries into the progress of technical education in Germany, is sufficiently definite in its statements and deductions; and it will not do much to remove the idea which a good many people have latterly begun to entertain—that our methods of technical instruction are not yet as practical and closely applied as they might be. In Germany both the Government and the teacher seem to have a keener appreciation of the value of scientific training as a basis of commercial success. Without being alarmists, the Commissioners conclude, for this and other reasons, that British supremacy in certain industries is seriously challenged. There is matter for grave reflection in this report, and not for the Technicals exclusively. Secondary education, we are told, is more accessible in Germany than in England.

> The instruction is more disciplinary, and exercises a deep influence in the formation of habits and in the training of character. The teaching of modern languages is insisted upon to a far greater extent than in any of our own schools, with results of the greatest possible benefit to the German clerk and commercial agent; the absence of frequent and conflicting external examinations gives more time for careful study . . . and the fees are much lower than in schools of corresponding grade in this country.

It has been said that we are going to mend all this; but we are a long time about it.

The Association of Headmasters, whose report for the past year gives evidence of much useful work, was formed in 1890, with the idea of bringing uniformity into the examinations which admit into public secondary schools, of attempting to guide secondary legislation, and of fully informing the public on all questions of secondary education. Starting with forty members, in the course of six years it has expanded to some four hundred. Originally it was recruited from the masters of schools which come immediately next to those represented at the Headmasters' Conference, and there was some apparent rivalry between the two organizations, for the Conference passed a resolution that it was undesirable for headmasters to belong to both societies. In December, 1895, however, this resolution was withdrawn, and to-day more than a third of the headmasters who belong to the Conference belong also to the Association. It is obvious that there was need of such a body at this crisis: the success of the Association is due to this need. It obtained its charter of incorporation in 1894. In character it is democratic and business-like.

The Association is thoroughly organized. On its Council of twenty-five members, the six provinces into which the kingdom is divided (London forming one by itself) are represented by three members each. The practical character of the work done

by the Association is due largely to the fact that care is taken that the sixteen Divisional Committees shall discuss the full application of principles adopted at general meetings. Three sets of Committees—standing, special, and divisional—are kept busily at work. Last year the Parliamentary Committee issued an important Draft Bill for Secondary Education, which is receiving the consideration of the Duke of Devonshire. Another, which is investigating the subject of the training of teachers, is reserving its decision till it has collected sufficient data; while a third, which is attempting to correlate examinations like the University Local, University Entrance, Civil Service, and Science and Art, has been able to influence the Civil Service Commission. Lastly, the two Universities of Oxford and Cambridge have accepted the principle of science teaching laid down by the Association's Committee. A list of public secondary schools issued annually is a useful document. From these facts, as well as from the character of the Mansion House debates, it may be inferred that the Association has vindicated its right to speak with authority on secondary education.

The "Englishman's Calendar," which is running month by month through the *Cornhill Magazine* for 1897, is a feature of exceptional interest and attraction. Its aim, so far as we understand the idea and method of the compiler, is to epitomize the history of the British islands by entering, under successive days of the year (without exception), events of approximately equal significance, so as to provide "a bird's-eye view of England's share in the making of the world." The attempt to present an historical synopsis in this form is novel, and perhaps capable of further development. The present compiler seems to have at least as much imagination as judgment. He tells us that "the persistency with which certain days are avoided, whilst those on either side are filled to overflowing," suggests to him "that there is more truth in astrological influence than is dreamt of by a scoffing generation"! And yet, in order that no day may be absolutely without an entry, he gives us, under January 17th, "Richard Lower, physician and physiologist, d. 1690–1." Lower was a big man in his way—he was the first transfuser of blood—but we doubt whether he is here commemorated in his true proportions. Nevertheless it seems to us that this "Calendar" is an excellent notion.

In a paper on "Deutschgesinnte Engländer in unseren Tagen," which Professor Buchheim contributes to the well-known Berlin weekly *Die Nation*, in order to show that Germany has many staunch friends in this country, the author pays a tribute to the English "Neuphilologen," whom he includes among the (surely very numerous) "Philo-German Britons." "Most of them," he says, "have acquired a knowledge of the German language and literature in Germany itself, and have there conceived a friendly attachment to that country, so that on their return to England they testify their Philo-German sentiments practically by influencing the young in favour of Germany." Dr. Buchheim cites as examples Professor Napier, of Oxford, and Mr. H. W. Eve, the Headmaster of University College School.

A correspondent writes:—"The death of Sir Isaac Pitman brings back to our minds the long struggle that the teaching of shorthand had to go through before it was generally recognised as useful and necessary. No other method has, so far, ousted the 'Pitman,' and the name will doubtless go down to future generations as associated with a very real revolution in writing. There is no more educative value in the teaching of shorthand than in the teaching of ordinary handwriting. Hence the fight that has been made against its introduction as a class-subject in our schools. And, though this is very far from saying there is no educative value in it at all, yet this is not the ground upon which to take our stand. All material progress in civilization is based upon labour-saving machinery and contrivances. We have no time nowadays for writing longhand. Soon the handwriting of to-day will be as rare as black-lettering or engrossing. We shall all write shorthand, and the typist will take the place of the copying clerk." But this is too awful to contemplate. English as we write it embodies its own history, and is embodied in its literature. We have little belief in spelling reform, none at all in universal shorthand.

It is odd to read a recent correspondence in a daily newspaper on the last fighting casualty at one of our public schools, and to compare it with other recent utterances about the code of military honour prevalent in Germany. A German officer was, or thought he was, insulted by a civilian. The officer's sword was drawn and the civilian died. The papers, rightly we think, attacked the whole idea of honour as connected with duelling in Germany. Then a boy in England taunted another boy with cowardice, with the result that the first boy was badly injured, and the second boy sent to prison. Then comes a sudden change of front, and a series of letters from more or less well-known people, urging that British pluck was in danger. We confess that we only see a difference in degree in the two cases.

SUMMARY.

THE MONTH.

The Duke of Devonshire, dining with the Headmasters at Drapers' Hall on January 14, made an important statement of his views as to the coming secondary legislation, but practically crushed the vague hope of a Bill for this session of Parliament which had been raised in some quarters by his speech in December. He spoke of a measure which "he trusted might, at no distant date, be introduced." He might, perhaps, confess that "the draft of that measure had not yet been submitted to and fully considered by the Government, and he was afraid, possibly, that some disappointment might be felt by some who were interested in this question at the position which this subject would occupy in the Speech which would very shortly be delivered to both Houses of Parliament." But he thought he might safely say that, whenever the time came when Parliament would be called upon to deal with this question, a very considerable agreement would be found to exist as to "the principles, the general principles—he would not say the details—upon which it should be founded." He believed that the principles which had been laid down in the Report of the Royal Commission on Secondary Education had met, "as to their general lines—he was afraid he could not altogether say, as to their details—with the general approval and consent" of those who had been concerned with this subject. But, taking one consideration with another, the speech was encouraging.

Discussing the principles of organization, the Duke of Devonshire said:

Two or three things had been clearly established, and were generally accepted by those engaged in administrative and in professional capacities with relation to this question. There was first the necessity of remodelling the Central Authority, which might be done rather by administrative than legislative methods. This authority must exercise

powers which would be chiefly those of superintendence, revision, and advice, but for which the Central Authority ought to combine the knowledge of endowed schools, of organized science schools, of Science and Art classes, and of higher-grade Board schools, now spread among various and separate Departments of the Government. Secondly, he thought they were almost universally agreed that it was necessary to constitute Local Authorities administering secondary education over areas of sufficient extent. Thirdly, something in the nature of an Educational Council ought to form a part of the Central Authority, although it would have to exercise not administrative, but purely consultative, functions. The duties of the Ceutral Authority would be largely of what might be described as a consultative, or, perhaps, of a diplomatic character. Some among the governing bodies would no doubt be alarmed at the prospect of State superintendence. and perhaps still more at the prospect of local superintendence; and the successful reorganization of our systems of secondary education must largely depend upon the extent to which the Ceutral Authority obtained the support and confidence of the governing bodies and teachers themselves.

At the same meeting, Dr. Wormell, responding for the Headmasters' Association, said:

I shall be content to advance but one point, namely, a general conclusion to be drawn from the growth, activity, and rapid consolidation of this Association. The conclusion is that the time is ripe for a further organization and for legislation to establish this result. Consider for a moment what was our position but seven years ago. The six hundred endowed schools of the country were six hundred independent elements haviug no relation one with another, except those of the football and cricket field, no cohesion, no affinities—no power of combination. We each sought individually, no doubt. to defend the traditions and interests of our particular schools. We all know, from our years of observation and experience, how important a part these traditions, customs, and methods played in the making of men. Some men who have risen to high positions by abilities developed by the machinery of our endowed schools have ungratefully disowned their obligation, but we who see cause and effect, day after day, year after year, have no shadow of doubt as to the reality of that obligation. Hence we were each and all afraid of jeopardising the individuality of our schools by advocating a combination, co-operation, or State control of any kind or degree. But, by contact and conference through a few years, we have all found reason to set aside this fear. We are now firmly united and keenly bent on combined action for the advancement of high learning. We are now persuaded that this may be secured without sacrificing one jot of the good influences, of the methods and of the machinery, which we inherit, which have come to us through the experience, wisdom, thrift, and foresight of our ancestors. While, by association, we hope to defend the good there is in our schools against injurious and destructive influences, we are bent on lifting them to higher achievement and on handing them down to the next generatiou in a state of higher efficiency and greater power for good than that in which we received them. Hence our policy has two sides—it is one of defence and of advance. We have adopted three watchwords, like those inscribed on French public works, which will become historical and permanent—"Freedom, Variety, and Elasticity"; and yet we are prepared to back, with all the weight of our combined influence, the Government measure which we hope to see in print in a few days. We are every one of us convinced that not only is it possible to organize and yet preserve individuality; but it is absolutely necessary something shall be done, because so much has already been done. We can no longer go on in independent and isolated action. County Councils and School Boards, charged with purses and other levers for lifting education, cannot be allowed to pick and choose arbitrarily the objects of their favours, or to set up idols of their own to draw men away from the older and legitimate objects of regard. They must be guided by statute towards impartiality, order, and an intelligible system. Now the rapid developmeut, the remarkable vitality, and the perfect consolidation of our Association arise from the fact that this view is universally held in our profession, and I believe that it is generally held by thoughtful Englishmen everywhere. Hence, as I say, the time is ripe for legislation—not destructive, but coustructive, directive, and preservative legislation.

The annual meeting of the Headmasters' Association was held on January 14 and 15 at Christ's Hospital, the outgoing and incoming Presidents being Dr. Wormell and Canon Fowler of Lincoln. The report of the Council was of a sanguine character, and stated that in the past year the great characteristic of secondary education in England had undoubtedly been the active co-operation of teachers and administrators. The bodies which represented secondary education, "having once, through the Association's Scholarships Committee, become united to promote a purely educational purpose," had proceeded to apply to administrative and to legislative problems the principles of mutual recognition and helpfulness. This principle of co-operation had been happily exemplified during the past year in the Cambridge Conference, which, by its representative character, was able to give voice to the remarkably wide acceptance of the recommendations in the Report of the Royal Commission; and legislative action on the part of the Government, as the natural outcome of that Report and its general acceptance, had already been materially promoted "by the education of public opinion, which the Association had steadily set itself to promote." The latest sign of that public co-operation and the richest in future promise was the formation of the Joint Representative Committee convened in October at the instance of the College of Preceptors, and consisting of nominees of no fewer than sixteen bodies, eleven—including the Universities of Oxford and Cambridge—representing the educational and five the administrative side of secondary education.

Canon Fowler subsequently proposed, and Dr. R. P. Scott seconded, the following resolutions in reference to the deputation to the Senate of the University of London:—

That the Incorporated Association of Headmasters' deputation should urge upon the University of London the desirability of changing the dates of the Matriculation Examination from June and January to June and December respectively. That the following changes are desirable in the subjects of the examination:—(*a*) In Latin and in French consecutive prose should be set instead of short sentences; (*b*) history and geography should be set in one paper, but in two equivalent sections; (*c*) English should consist of three equivalent sections, viz., (i.) essay, (ii.) author, (iii.) grammar (including analysis) and history of the language; (*d*) in mathematical subjects more book-work should be set; (*e*) any two of the languages Latin, French, German should be allowed. And that a Revising Committee should be appointed (*a*) to prevent the present variability as to the difficulty of questions set, (*b*) to be empowered to pass candidates who pass in each of three groups (languages, English, mathematics and science) into which the examination should be divided.

On these proposals considerable discussion ensued, and after *d* and *e* in the first resolution had been negatived, it was resolved to postpone the consideration of the remainder, with the exception of that relating to dates, to the next meeting.

The Resolutions adopted by the Joint Committee of Teachers and Representatives of Administrative Bodies, together with the report of a sub-committee appointed to draft "the main points of such a Secondary Education Bill as would be acceptable to this Committee," have been presented to the Lord President of the Committee of Council on Education. The resolutions of the sub-committee, eight in number, were as follows:—

1. In order to bring the State into a fitting relation to secondary education, it is necessary to provide for the constitution of a Central Authority suitable for this purpose (under a Minister of Education, when appointed), simultaneously with the provision of Local Educational Authorities.

2. To this Ceutral Authority should be transferred the powers and functions at present exercised by the Education Department and the Science and Art Department, so far as they relate to secondary education.

In the opinion of this Committee it is of urgent importance that the Charity Commission should as soon as possible be included in the Central Authority, so far as its educational functions are concerned.

3. The Central Authority should include an Educational Council, constituted on the principle laid down in the Teachers' Registration Bill of 1896, which Council, in addition to the duties imposed on it in that Bill, might advise the Minister on the schemes for the constitution of Local Authorities, and other matters referred to it by him.

4. There should be created a Local Authority for Secondary Education in every County or County Borough, but in no areas other than these. Adjoining Counties and County Boroughs to have power to unite.

5. This Local Authority should be constituted by scheme to be submitted by the County Council and the County Borough Council to the Central Authority, such scheme providing for the inclusion in the Local Authority of an adequate proportion of persons possessing educational experience. Women should be eligible as members of County Education Committees.

6. As regards the functions and duties of the Local Authority, Clauses 2 aud 12 of the late Government Bill seem generally to meet the requirements of the case; but Clause 12 *(g)* seems to us unnecessary. A provision should be added that the Local Authority should be required to take into due consideration all existing efficient schools in a locality, before taking steps for establishing any school at the public expense; and if any school thinks itself aggrieved by their contemplated action, it should be allowed an appeal to the Central Authority.

7. Scholarships and Exhibitions should be tenable at, or open to the pupils of, any efficient school or institution; and this should not be regarded as aid to the school or institution within the meaning of the Act.

8. It is desirable that the legislation proposed should include a Bill similar to the Bill of last session, for the purpose of registering teachers qualified to teach in secondary schools; with this modification, that the third group of representatives of teachers on the Registration Council should be elected by persons not included in groups i. and ii.

A RESOLUTION was subsequently adopted by the Joint Committee to the following effect:—

It is advisable that the field of Primary and Secondary Education should be carefully delimited. With regard to the schools lying on the border line, it is desirable that (1) if transferred to the Local Authority, by its desire and with the consent of the Central Authority, they should be conducted as secondary schools, with a scheme and under this Act; but (2), if not so transferred, they should be conducted as "Handicraft Schools" under a Continuation School Code and by the Elementary Education Authorities.

AT the annual meeting of the Private Schools Association, on January 11, Mr. George Brown, the incoming President, delivered his inaugural address. He held that—

There was no real dissatisfaction with secondary education, but that the agitation was maintained chiefly by shibboleths and mis-statements. With regard to the proposed Government measure, the Welsh Act had had a disastrous effect upon private schools in the Principality, and private enterprise had been depleted. The Joint Committee of persons connected with secondary education had suggested to the Lord President of the Council that there should be adopted in the main the scheme of the Royal Commission, which embodied a State Minister of Education, a State amalgamated Department under him, and local authorities. That was "too large an order" for the Government to undertake, and not within the range of practical politics. Local authorities, as in the late Bill, with a free hand, would certainly be opposed by the professional element, unless accompanied by a Central Council, and this was by no means assured. Even if it was accompanied by a Central Council it would provoke much opposition if it involved new rating powers. The method of thoroughly organizing technical education apart from the schools, and of introducing separate Bills for the registration and training of teachers, formed the line of least resistance. The nation would be saved millions of money, the rates would not be increased, nor would another authority be set up, and secondary education would be saved from officialism and State rigidity.

A discussion followed. A letter was read from the Secretary of the Manchester Branch of the Association, consisting of about sixty members, stating that they were entirely opposed to legislation on the lines laid down by the Royal Commission.

AT a meeting of the Governors of the City and Guilds of London Institute, on January 12, the report of the Special Committee appointed some months ago "to inquire, consider, and report" on a resolution passed by the Mercers' Company to the effect that an investigation should be made into the expenditure, especially as compared with results, of the Central College in Exhibition Road, was presented. The Committee included Lord Kelvin, Sir Douglas Galton, Sir Frederick Abel, Mr. George Matthey, Dr. J. W. Russell, Sir John Donnelly, Dr. William Anderson, and other well-known experts and practical men. Two sub-committees were appointed, one to examine finance and administration, with Mr. E. L. Beckwith as chairman; the other to deal with the educational work, of which Sir Douglas Galton was chairman. Careful inquiry was made into the cost of buildings and equipment, comparing the results with the capital expenditure on other colleges of a similar character at home and abroad—and, it may be noted, the Central Technical was the least costly of those in the schedule; the actual current expenses compared with the original estimate; the cost of the College per student, again in comparison with other institutions; and generally into the methods of administration and control. The sub-committee on educational work dealt with the character of the courses of study, and their success in achieving the desired end. The reports of the sub-committees, which were adopted by the Committee, urge that the College has been eminently successful, and that the results are commensurate with the expenditure involved.

THE annual report of the Geographical Association shows a steady increase in numbers, the Association being now represented in forty-four secondary schools, including most of the great public schools. In the course of the year 1896 two lectures were published by the Association, one by Mr. Dickinson, explaining his method of teaching geography by means of lantern-slide maps and diagrams, and the other by Mr. E. R. Wethey, entitled, "A Geography Lesson; the Blackboard and Oral Teaching." A revised catalogue of the Association's slides, then amounting to 684, was issued in March. The number has since been considerably increased, and Mr. Dickinson is now engaged in remaking many of the early experimental slides, with improvements suggested by increased experience and newer methods. The chief work of the past year has been to prepare and send out a memorial to certain Boards of Public Examiners on the subject of reforms in examinations in geography, which advanced the following propositions:—

(1) That the main principles of physical geography should form the basis of geographical teaching at all stages, and should be fully recognised in all examinations in geography. (2) That a general knowledge of geography, based on physical principles, should be required, together with a special study of some selected region, *e.g.*, India, a group of British Colonies, South America, Central Europe. (3) That it is desirable that all public examining bodies, such as the Civil Service Commissioners, the Universities (in their Local and Certificate examinations, and London Matriculation) and the College of Preceptors, should recommend a course of instruction in accordance with the ideas suggested above. This would stimulate geographical teaching in schools, ensure that geography should be systematically taught throughout the school, and do away with the need for separate classes to prepare candidates specially for the various public examinations in geography. (4) That in the examinations above referred to geography and history should be dealt with in separate papers, and that the maximum of marks should be approximately the same for each.

THE results thus far obtained are recorded in a separate report. The Oxford Delegates and Cambridge Syndics for Local Examinations expressed their general agreement with the principles advocated by the Association, and their willingness to consider any more detailed suggestions that the Association might wish to make. With the view of encouraging the higher study of geography, and of providing an examination which may serve as a satisfactory test of a teacher's knowledge of the subject, they have decided to include geography as a new group in the Higher Local Examinations. Full particulars will be found in the new regulations for 1896–7. The Oxford and Cambridge Schools Examination Board, after considering the Memorial, decided to insert the following paragraph in the regulations affecting geography in the Lower Certificate Examination:—"The questions shall be set on the assumption that the main principles of physical geography form the basis of geographical teaching." The Council of the Victoria University, Manchester, received the Memorial with much favour, and a special committee of the Board of Studies has been appointed to consider the question of giving geography a more important place in the Preliminary Examinations. The annual meeting was held in the hall of Dr. Williams' Library on December 23, Mr. J. G. Colmer, C.M.G., in the chair. After the transaction of business, a paper was read by Mr. A. W. Andrews on "The Teaching of Geography in Preparatory Schools and Junior Classes," which was followed by a discussion. Mr. Andrews also reported that at the Conference of Headmasters of Preparatory Schools, held in London on December 22, the following resolution had been carried:—"That it is desirable that every boy, before admission to a public school, should have to pass an elementary examination in history and geography." The committee of the Geographical Association have decided to give their hearty support to this resolution, and to address a letter on the subject to the headmasters of public schools.

THE annual report of the National Association for the Promotion of Technical and Secondary Education lays stress on the efforts which have been made to correlate the various scholarship examinations. It records that the management and further development of the scheme for the unification of these examinations have been handed over by the Incorporated Association of Headmasters to a board representative of educational and administrative bodies, and, through three committees for major, intermediate, and minor scholarships respectively, this board in 1896 tested the fitness of nearly 6,700 candidates, the bulk of whom had been competitors for minor scholarships offered by no fewer than seventeen county, one county borough, and two urban district councils, by eight educational trusts, and by forty secondary schools. The Intermediate Scholarship Committee for the first time last year examined on behalf of five county councils, and the Major Scholarship Committee conducted examinations for two counties, one borough, and a board of trustees

UNIVERSITIES.

(*From our Correspondents.*)

Cambridge.

FULL term this year began on January 14, amid the usual concomitants of a Cambridge winter—rain, sleet, wind, and slush. It is satisfactory to note that the town is in a healthy condition, in spite of the gloomy anticipations regarding the new drainage system. Ayerst's Hostel has ceased to exist, and its members, both graduate and undergraduate, have to betake themselves to other quarters. This is the second case of a semi-public college becoming extinct within the last few years. Cavendish, after gallant struggles, is now a Training College for Teachers, while the buildings of Ayerst are to be utilized for the education and training of candidates for the Presbyterian ministry.

The *raison d'être* of private hostels disappears when the older Colleges cater for the honest student of limited means, who comes to the University for education and not amusement. It is gratifying to note a change which has been inaugurated at Trinity in regard to the undergraduates' accounts. Formerly the tutors had the irksome task of receiving all bills and discharging the liabilities of their pupils to tradesmen and others. By the new arrangement the inspection and control of accounts is still retained by the tutors, but the mechanical and clerical work is now done by the staff of the College office. In this way the able and learned men who fill the office of tutor are freed from much petty worry and anxiety, while the supervision of the men's expenditure is quite as thorough as before.

Dr. Ward, one of the recently elected tutors of Trinity, had hardly commenced the work of his office when he was summoned to another sphere of labour, the Professorship of Logic and Mental Philosophy. A better appointment could hardly have been made, and satisfaction is openly expressed that the electors have not thought fit to follow the prevalent fashion of past years, and appoint a member of another University in preference to those who, with equal qualifications, are conversant with Cambridge work and Cambridge needs.

The amusing craze for imitating Oxford goes on apace; every department of examination teems with the ungrammatical essay and the illogical thesis, but we live in hopes of a time when grammar and logic will be recognized as essentials of a University education. It is curious that the various Syndicates and Boards which have enforced the necessity of introducing essay-writing into all examinations have never devised any plan for teaching an art the acquisition of which they consider so necessary. It is all very well for the student who has had a literary training; for him composition is as child's play; but the mathematicians and the budding scientists—these feel the hardships of their inarticulate position, and cry aloud for instruction.

But the imitation of Oxford runs a risk of being checked at a point where experts would insist on the advantages of further and definite development. A new, indeed a revolutionary, scheme has been put forward for the Historical Tripos. This examination, founded rather more than twenty years ago by Professor Seeley, has always had something of a *political* character, with a view to preparing students for public life, the object for which the Regius Professorship of History was originally founded. Sir John Seeley being dead, the Board now propose to establish what he always deprecated, a Tripos of "pure" history. On examination this is found to consist of four papers on "Outlines" of English, Ancient, Mediæval, and Modern History respectively, and certain other historical subjects. The politicians on their side demand that candidates may be allowed, as at present, to offer in the ordinary course the four subjects, Political Science, Theory of Law and Government, Political Economy, and International Law, which have hitherto produced first-rate educational results wherever they have been given a fair trial. It can hardly be supposed that the Senate will allow this new scheme to be passed. It would be applying to one of the most stimulating and useful studies of the University the tar-brush of pedantry which deforms so many of our institutions, and places us at a great disadvantage on the literary side of education, compared with the University of Oxford.

The examination in the Theory, History, and Practice of Education, held by the Teachers' Training Syndicate, has resulted in nine candidates being placed in the first class for theory, and ten for practical work. Of these the Cambridge Training College is responsible for ten candidates, four in theory and six in practical work, a very creditable result, considering the disadvantages under which the Cambridge candidates have laboured till very recently.

Sir Robert Ball, the eminent astronomer, who scandalizes the elect by combining a keen sense of humour with the deepest scientific acquirements, has earned the gratitude of many by allowing the members of the University and their friends to visit the Observatory, on Saturday evenings, and view celestial objects by means of one of the large telescopes. The experiment was originally for the benefit of the townspeople as well, but the crowd was so great that admission had to be restricted to members of the University and friends introduced by them.

Another department of work, one that is also under the control of an imported Professor, is flourishing apace. The Engineering Laboratory, at one time a reproach to the University, is now one of the most thoroughly organized and effective educational institutions of the place. Professor Ewing has a way of asking for much, both from the University and his pupils; what he asks for he invariably gets: even in Cambridge capacity is sometimes recognized. The fact that about a hundred students are at present being trained in the scientific and professional subjects of an engineer's education shows that the old objections to the department have vanished into thin air.

The Senate will soon be asked to formulate a new edict against money-lenders *et hoc genus omne*. "Discommoning" is the awful sentence to be pronounced against the offender who ventures to lend money to undergraduates under cover of bogus sales of clothes, wine, or cigars. The edict to which the new enactment is an addendum is not perhaps cast in the most intelligible form. It apparently makes it highly penal for a college tutor to receive a cheque from a pupil in payment of a college account, though doubtless that evil was not within the purview of the original enactment.

London.

LONDON graduates have been gratified by the appearance of the names of two of their fellow graduates in the rather short lists of the higher New Year's honours. Lord Lister, the first medical man, as such, to become a peer, now joins another London graduate (Lord Llandaff, formerly Mr. Henry Matthews) both in the House of Lords and in the Senate of the University; and to the respectable number of medical baronets which the University has been, and is, able to boast of, Dr. Douglas Powell has been added. Sir Douglas obtained First Class Honours in Medicine at the M.B. Examinations in 1865, and was marked worthy of the Gold Medal at the M.D. Examination in 1866. Possibly his position as Physician Extraordinary to her Majesty had something to do with his new dignity.

The January meeting of Convocation, held on the 18th, was chiefly occupied with the Report of a Committee containing the results of an inquiry into the possibility of using the University laboratories for research, and suggestions for making the library more accessible to graduates. As to laboratories, it appeared that the University simply has none. One room alone has some scanty permanent fixtures, and can be rigged up with racks of reagents for the practical testing of candidates in chemistry; but it is only by rather close packing that so many as forty can be got into it, even at times when four or five hundred candidates have to be passed through in three or four days.

Two other rooms, neither intended nor arranged for the purpose, are temporarily fitted up for every practical examination in Physics, the tables and apparatus being carried in on each occasion and removed as soon as done with. Even the larger room, known as the library, besides being in frequent use for written examinations, is two or three times a year appropriated to practical examinations in biology. We remember, on looking in at the University not very long ago, being half poisoned by a sickening stench, which was found to proceed from the library, and to be caused by nearly a hundred dog-fish (not caught that morning) then under dissection. Convocation made some suggestions for the convenience of graduates using the library (*i.e.*, the collection of books, now numbering about 20,000); but was hampered by the fact that the University building is much too small. This building was planned about thirty years ago, and the men of that time foresaw neither the vast extension of the University's operations that has since taken place nor the large amount of practical work that was soon to become an essential part of the examination in science.

The remaining B.A. and B.Sc. Honours Lists have been posted during January, although the History List was at least a fortnight behind time. Only 3 candidates succeed in this subject, and

there is no First Class, so that the "Derby Prize" of £50 remains unawarded. In English 28 candidates succeed; 3, of whom 2 are ladies, and all from University College, Aberystwyth, are in the First Class. The Prize (£15) is awarded to Miss Abadi, and the other two, viz., Mr. J. W. H. Atkins and Miss Eva Blaxley (who obtained the Exhibition at the Intermediate in 1895), are marked worthy of the Prize. In Geology 4 candidates succeed, but there is no First Class. Under the regulation which allows Bachelors of Science who did not get First Class Honours when they took their degree to present themselves in a subsequent year with a view to a First Class, and so obtain exemption from a part of the D.Sc. examination, 2 gentlemen have this year succeeded—Mr. Arthur Vaughan, of Trinity, Cambridge, in Mathematics, and Mr. J. H. Herbert, of the Royal College of Science, in Experimental Physics. One gentleman, Mr. E. A. Baker, similarly gets First Class Honours in English, with a view to the Doctorate in Literature.

In the list of Bachelor of Surgery Honours, in which 4 are successful, 2 being in the First Class, the scholarship and first Gold Medal go to Mr. J. H. Cook, of University College, and the second Gold Medal goes to Mr. H. M. Rigby, of London Hospital. In the Musical examinations, 12 candidates pass out of 17, at the Intermediate, but only 3 out of 9 at the B.Mus. At the D.Mus., we understand that 2 candidates have only to give a satisfactory public performance of their exercises in order to obtain the degree: such public performances have, in previous years, generally been given in February. Of the January examinations, the Pass Lists of the Intermediate Laws and the LL.B. were published in the middle of the month. At the former only 20 pass out of 53; at the Degree examination 18 pass out of 40.

Wales. A Meeting of the Senate of the University of Wales is being held at Aberystwyth, from the 26th to 29th of January.

The appointment of a Chief Inspector to the intermediate Schools of Wales will be made at Shrewsbury, by the Executive Committee of the Central Welsh Board for Intermediate Education, on February 12.

The Council of the Teachers' Guild has accepted the invitation of the University College of Wales, Aberystwyth, to hold its tenth Annual Conference at Aberystwyth in Easter week, 1898.

The question of the location of the offices of the University of Wales is still causing some excitement in the Principality, far more excitement, indeed, than the matter deserves. In view of the fact that the most convenient meeting place for representatives from the whole of Wales is Shrewsbury, there is a considerable body of opinion in Wales in favour of locating the offices at Welshpool, which is situated about twenty miles from Shrewsbury. The Mayor and Corporation of Welshpool have made an offer of suitable office accommodation, and it is understood that the invitation to the town will be laid before the University Court by a highly influential deputation.

APPOINTMENTS, &c.

The new Chair of Mental Philosophy and Logic at Cambridge has been filled by the appointment of Dr. Ward, Fellow and Tutor of Trinity College.—Miss Umpherston has been appointed Lecturer in Physiology at St. Andrews University.

The Rev. A. Robertson, of Bishop Hatfield's Hall, Durham, succeeds Dr. Wace as Principal of King's College, London.

During the past month the following appointments have been made:—Messrs. P. S. Allen and W. Knox Johnson, of Oxford, to professorships under the Government of India.—Mr. L. J. Griffiths, M.A. Oxford, to be Headmaster of Almondbury Grammar School.—Mr. Thomas Thomas, B.A., to be Headmaster of St. David's Intermediate School.—Mr. T. L. Williams, B.A., to be Headmaster of Brynmaur School.

Principal Ewbank, of Patna College, intends to resign his position in April next.

The Headmastership of King Alfred's Grammar School, Wantage, is vacant by the death of Dr. E. J. Piggott.—A vacancy occurs in the Headmastership of Birkenhead School.—A new Headmistress is required for the Girls' High School, Loughborough.

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The Spring Term of the Training College opens on Wednesday, February 3, at the College of Preceptors. The usual hour for lectures is 5 p.m. Professor Sully's lectures on "Child Psychology" (open to members of the College) are given on Thursdays at 7 p.m. All lectures are open to men and women.

A Committee representative of various educational bodies, and initiated by the Association of Headmasters, is about to enter on an inquiry into the whole question of the needs and provision of secondary training. We print in this number of the *Educational Times* a digest of evidence on this subject given before the Royal Commission of 1894–5.

The Lord President of the Council has appointed a Committee to report upon the education of children of defective intellect. It is constituted as follows: The Rev. T. W. Sharpe, Senior Chief Inspector of Schools (chairman); Mr. H. F. Pooley, Senior Examiner, Education Department; Mr. A. W. Newton, Inspector of Schools; Dr. Shuttleworth, late Medical Superintendent Royal Albert Asylum; Dr. W. R. Smith, Medical Officer of the London School Board; Mrs. Burgwin, Superintendent of Schools for Special Instruction under the London School Board; and Miss Townsend, member of the Council of the Association for Promoting the Welfare of the Feeble-minded. Mr. H. W. Orange, Examiner to the Education Department, will act as secretary to the Committee.

The Lord President has also appointed a Committee to inquire into the working of the pupil-teacher system in England and Wales, and the supply of teachers as affected by that system, and to report whether any, and if so what, alteration is required in the existing regulations of the Department as regards pupil-teachers.

An examination for posts as *répétitrices* in French training colleges is announced to be held at Newnham College, Cambridge, in Easter week. Candidates must be not under eighteen on January 1, and must have passed some examination conducted by a British University open to women above the age of seventeen. The examination will be wholly oral, and will consist of (1) reading aloud a passage of modern French prose or verse and answering easy questions in French, (2) reading aloud passages of English prose or verse and answering questions on the subject matter and language. All particulars can be obtained from Miss Alice Gardner, Newnham College, Cambridge.

Sundry small boroughs, of which Leamington is an example, are putting forward claims to be constituted separate authorities under any Act which may be passed with a view to the organization of secondary education.

A new scheme for the furtherance of Froebelian methods of education has been organized. A "Michaelis Guild" has been formed in connexion with the Froebel Educational Institute, including students who have been trained by Madame Michaelis. The object is to bring members into closer fellowship, and so assist in carrying out Froebel's principles. To aid this purpose meetings will be held, and a Guild magazine will be published three times a year, which is to be a means of correspondence with members living at a distance.

During the current term at Toynbee Hall Dr. S. R. Gardiner leetures on "European History from Waterloo to the Crimea"; Mr. Churton Collins on "The Greek Tragedies"; Mr. Chalmers Mitchell on "Missing Links" (a course in biology); and Dr. W. P. Herringham on "Hygiene." These lectures will be supplemented by a great variety of reading parties and practical science classes. Amongst the lecturers who give their services for Saturday evenings are Sir Charles Elliott, Prof. Victor Horsley, Sir Martin Conway, and Major-General Sir F. Grenfell. For the Sunday evening lectures on "Great Reformers in Church and State," the following, amongst others, have promised to speak: Canon Barker, Mr. B. F. C. Costelloe, Mr. Augustine Birrell, Q.C., M.P., Dr. A. M. Fairbairn, Sir H. Maxwell, M.P., and Professor J. E. Carpenter.

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COLLEGE OF PRECEPTORS.—HALF-YEARLY GENERAL MEETING.

The Ordinary half-yearly General Meeting of the members of the College was held on Saturday, January 23, at the College, in Bloomsbury Square.

The Secretary having read the advertisement convening the meeting, Mr. H. W. Eve was appointed Chairman, and in taking the chair expressed his deep regret at the absence of Dr. Wormell from indisposition.

The Report of the Council was laid before the meeting, a copy having been sent to every member. It was as follows:—

Report of the Council.

The Council beg to lay the following report of the proceedings for the past half-year before the members of the College:—

1. They have to report that, while the number of entries for the Christmas Examination for Certificates shows a decrease of 5 per cent. as compared with the corresponding Examination last year, the number of entries for the Junior Forms Examination has increased by over 80 per cent. The number of the Certificate candidates is 8,746, while that of the Junior Forms is 1,547, making a total of 10,293, as compared with 10,070 in December last. At the Midsummer Examination the number of entries (including those for the Junior Forms Examination) was 7,639, so that the total for the present year is 17,932, as compared with 16,995 in 1895. Taking the Certificate and Junior Forms Examinations separately, it appears that the number of Certificate candidates is nearly as many as last year (15,301, as compared with 15,519), while the number of Junior Forms candidates has increased by 1,155 (from 1,476 to 2,631). The Council have decided to allow Second and Third Class candidates, as well as those for the First Class, to obtain distinction in individual subjects, on obtaining three-fourths of the maximum of marks assigned to any subject; they believe that this alteration will be generally appreciated, and, while free from the objection against placing very young candidates in "Honour" Classes, will give them the opportunity of distinguishing themselves in subjects for which they have special aptitude. The Public Distribution of Prizes and Certificates to the successful candidates at the last Midsummer Examination took place at the College on the 21st of October, when the chair was occupied by Sir Henry Roscoe, LL.D., F.R.S. Due notice will be given of the time and place of the forthcoming Distribution.

2. The Professional Preliminary Examination, for intending medical students and others, was held, as usual, in the first week in September, and was attended by 222 candidates.

3. For the Christmas Examination for the College Diplomas, 201 candidates have entered. The examination will be held in London, and at the following centres: Birmingham, Bristol, Leeds, Manchester, Paris, St. John's (Newfoundland), and at Chefoo (N. China).

4. In addition to their own examinations of pupils and teachers, and the examination of schools by visiting examiners, the Council have conducted, during the past half-year, the Preliminary Examinations of the Pharmaceutical Society of Great Britain and Ireland.

5. The twenty-fourth annual series of Lectures to Teachers on "The Science and Art of Education," which began in February last, with a course of twelve lectures on "The Scientific Basis of Education," by Dr. James Sully, was completed by a course of twelve lectures on "Class Teaching," by Dr. J. J. Findlay, the Principal of the College of Preceptors Training College.

6. The usual monthly meetings of the members have been held during the past half-year. The meeting on the 10th of October was made the occasion of the commemoration of the 150th anniversary of the birth of Pestalozzi, when addresses were delivered by the Chairman, Sir Joshua Fitch, as well as by Mrs. Bryant, Miss Hughes, Mr. M. E. Sadler, Mr. J. Russell, Mr. E. Cooke, and Dr. Wormell. At the meeting on the 11th of November a Paper "On Pleasure as an Educational Influence" was read by Mr. H. Holman, M.A.; and at the meeting on the 9th December Mr. R. F. Charles, M.A., read a Paper "On Geography as a Basis of History Teaching." The Papers and the discussions on them have been reported, as usual, in the *Educational Times.*

7. On the withdrawal of the Government Education Bill, towards the close of the last Session of Parliament, the Council considered the time to be opportune for forming a Joint Committee consisting of representatives of the various associations of teachers connected with secondary education, for the purpose of ascertaining those points on which agreement could be arrived at, in order that the opinion of secondary teachers might thus be

brought to bear with greater effect on the framers of any Bill for the organization of secondary education that may hereafter be introduced. They accordingly issued invitations to the executives of the Headmasters' Conference, the Headmasters' and Headmistresses' Associations, the Assistant-Masters' and Assistant-Mistresses' Associations, the Private Schools Association, and the Teachers' Guild. The invitation was accepted by all the above bodies, and Mr. H. W. Eve, Dr. R. P. Scott, Mrs. Bryant, Mr. J. Montgomery, Mrs. Withiel, Mr. A. Millar-Inglis, and the Rev. the Hon. E. Lyttelton were appointed to represent these Associations respectively, while Dr. Wormell was appointed to represent the College. Professor R. C. Jebb, M.P. for the University of Cambridge, was invited to become Chairman of the Committee, and kindly consented to preside over its deliberations. The Committee at its first meeting considered it advisable to enlarge its representative character by inviting other bodies, including those connected with the administrative side of secondary education, to appoint representatives to serve on the Committee. The following bodies accepted the invitation to co-operate in the work:—The National Association for Promoting Technical and Secondary Education, the County Councils Association, the Municipal Corporations Association, the Association of Organizing Secretaries for Technical and Secondary Education, and the Preparatory Schools Association; and Mr. W. Bousfield, Mr. Henry Hobhouse, M.P., Sir Samuel Johnson, Mr. H. Macan, and the Rev. H. Bull were appointed to represent them respectively. The Secretary of the College was asked to act as honorary secretary. The Committee thus reconstituted is now engaged in formulating a series of propositions which, in the opinion of the Associations represented, should be found in the Bill or Bills which are to form the first step towards the organization of secondary education in this country. The work is nearly finished, and their chief resolutions have been forwarded to the Lord President.

8. Since the constitution of the above Joint Committee, an important deliverance has been made by the Duke of Devonshire, in reply to a deputation, including the members of the Committee, who waited on him to urge the Government to proceed during the coming Session with legislation for the organization of secondary education on the lines of the recommendations of the Secondary Education Commission. The Duke affirmed the intention of the Government to deal with the Secondary Education question, and to bring in a Bill as soon as practicable. He, at the same time, invited the Chairman of the Joint Committee to make the Government acquainted with the result of the Committee's deliberations, to which he promised to give careful consideration in drawing up the new Bill, or Bills, which would, he intimated, accord in the main with the principles embodied in the Bills of last Session.

9. The progress made with the College Training College has not, during the present half-year, the Council regret to report, satisfied their expectations of the ultimate success of their efforts to provide that professional training on which professional status so largely depends, and they look forward to the time when the requirements of an effective Registration Bill will emphasize the necessity of such training.

10. The Council have been enabled, out of the surplus funds accruing from the regular operations of the College, to provide for the cost of celebrating the College Jubilee (for which the sum of £200 was voted by the general meeting in January last), to defray the expenses connected with the Conference at the beginning of the year, to provide for the outlay on account of Scholarships for intending teachers, and to place the sum of £100 to the credit of the Benevolent Fund. They have not, however, been able to add anything more than the interest to the Teachers' Training Fund, on which they have had to draw to the amount of over £600, which has been met by a sale of part of the Stock in which the Fund was invested.

11. During the year about 300 volumes have been added to the Library, which is extensively used by members, 220 of whom have availed themselves of the privilege of taking out books. The number of volumes sent out during the year amounts to nearly 1,800.

12. During the past half-year, the Diploma of Licentiate has been conferred on 6 candidates, and that of Associate on 119, who had passed the required examinations. Twenty-four new members have been elected, and notice has been received of the withdrawal of six. The Council regret to have to report the death of Mr. J. J. Beuzemaker, for many years one of the College Examiners, and also of the following members:—Mr. W. J. Cartmell and Miss F. A. Dodwell.

With reference to paragraph 7, the CHAIRMAN said he wished to make one remark about the final sentence, which ran as follows:—"The work is nearly finished, and their chief resolutions have been forwarded to the Lord President." The words were not intended to imply that the work of the Committee was completed; but that the main points that it was desired to submit to the Government preliminary to legislation had been already formulated. The resolutions that had been agreed to had already appeared in the *Times* and other journals.

Mr. PINCHES regretted that Dr. Wormell, the representative of the College upon the Committee, was prevented by illness from being present that day to give some further information as to the work of the Joint Committee. Perhaps the Chairman, as a member of the Committee, would give them any information in his power with respect to the action taken by this very important Committee. He was very glad to have the explanation with regard to the last sentence, because he hoped that the Committee would continue its useful work, not only till some Bill for the organization of secondary education was introduced, but until it became law.

The CHAIRMAN said the most important points were stated in the Report. The Committee had somewhat deviated from the plan originally laid down by the Council of the College, but there was a considerable balance of opinion among the representatives of the associations of teachers of which the Committee originally consisted in favour of adding members of administrative bodies to the number; and, though he confessed that he was himself at first opposed to the proposal, he thought it had worked well in practice. They had an excellent Chairman in the person of Professor Jebb. The main work, so far, had been to draw up certain resolutions, which had been laid before the Duke of Devonshire; and he believed that these resolutions would be found on the whole to meet the wishes of the associations that had appointed delegates. The first resolution was to the effect that it was desirable to appoint a central authority as well as a local authority for secondary education;—that the central authority should take over the functions in connexion with secondary education now discharged by the Education Department and the Science and Art Department; and that, as soon as possible, the Secondary Education Department of the Charity Commission should also be incorporated in it. The central authority was further to include a representative teachers' Council to advise the Minister, such as was contemplated in all the Registration Bills. It was further suggested that there should be local authorities in counties and county-boroughs, but not in smaller areas. The various local authorities were to draw up schemes for their own procedure, which schemes were to be submitted to the central authority; implying that the procedure would not be identical for every county and county-borough. It was further recommended that the schemes should contain a provision for securing the presence of educational experts on the local authorities; that the local authority, in investigating the needs of the locality, should take into account all existing efficient schools, public and private; and that, if any principal or the managers of a school considered themselves aggrieved, they should have the right of appeal to the central authority; further, that scholarships and exhibitions should be open to and tenable at any efficient school. With regard to Registration, the Committee expressed a general approval of the Bill brought in last year. Since the last meeting they had drawn up a resolution on the delimitation of primary and secondary education.

Mr. THORNTON said he could not agree with the remarks of the Chairman when he spoke of the deviation from the original plan of the Joint Committee. This deviation was a very serious one, and was likely to commit the Joint Committee to a policy of which the College could not approve. Since the Royal Commission issued its Report there had been a very perceptible growth in public opinion. At the Conference of the Teachers' Guild at Merchant Taylors' Hall in January last, it had been resolved that scholarships should be allowed to be held at any efficient school, public or private, and also that grants should be obtainable alike by all classes of efficient secondary schools. It was hardly conceivable that the Teachers' Guild should be more forward in the advocacy of the claims of the private teachers than was the College of Preceptors.

The CHAIRMAN said he might, perhaps, be permitted to state that the Committee had adopted a resolution as to the tenure of scholarships and exhibitions at all efficient schools, and they had now under discussion resolutions as to what further public aid it might be possible to afford to all efficient schools.

Dr. BELL said he was anxious to know whether the interests of private schoolmasters, for whose benefit the College of Preceptors was originally founded, were adequately represented on the Committee.

The CHAIRMAN replied that he himself was appointed as a representative of the Headmasters' Conference, but that he trusted he had not forgotten the interests of the College, and that Dr. Wormell was the representative of the College. He was sure that everybody who knew Dr. Wormell would know that he had done his duty to the College on the Joint Committee.

Mr. BROWN said he did not think it was a question whether the College was properly represented on the Committee, but rather a question of the policy advocated by the College at the Committee. There had been an Oxford Conference, a Cambridge Conference, and a Conference of this College, where teachers could give full expression to their views; and he could not

quite understand the object in calling together this Joint Committee. It was understood that the Committee should be a committee of representatives of associations of teachers; but in the terms of reference it was left to the representatives to determine the constitution of the Committee when they met. When they met to give expression to their views as teachers, then the other administrative associations were admitted. The teachers who attended the Committee had done their best on behalf of the associations they represented, but what he wished to point out was that the College had set rolling a ball over which it had no longer any control. He wished to know whether, when the Joint Committee had formulated their views with regard to future legislation, the College was prepared to take part in pressing those views on the House of Commons. He conceived that the *raison d'être* of the Committee was really to secure the passing of the Bill, when it was introduced. No doubt at the present time something was needful for the organization of secondary education; but the Joint Committee had adopted the scheme of the Commissioners. That seemed to be a point which the College of Preceptors should come to a decision upon, whether they were prepared to agree with this proposition or not. The private teachers had all along objected to the scheme of the Commissioners. The Joint Committee had adopted the same scheme, and he should like to know whether the College would accept that verdict, and combine in the effort to force the scheme through. If they did, they would do it with their eyes open, and the consequences to the College later on might be serious. He was quite sure that a very strong feeling would be generated that the College was officered by one class of teachers and supported by another. He did not say so himself; he merely repeated what had been said over and over again. He thought the College in the past had taken up its proper position in representing all classes of teachers, and if the College continued in the future as in the past, it would still command that general approbation which its growing importance deserved; but he was a little doubtful whether, at the present moment, the action of the College in relation to the Joint Committee had not given rise to a feeling that it was allying itself to one section of its body to the detriment of the other.

Dr. R. P. Scott, as a member of the Joint Committee, desired to say a few words in reply to what had fallen from the last speaker. With regard to the constitution of the Committee, the conditions were well understood on which some of the constituent bodies attended. He should like to point out that, of the eight bodies who had received invitations, no fewer than five had sent representatives who were members of the Council of the College of Preceptors, so that this was pretty clear evidence that the College had not that poor representation which had been suggested. Before ever the constitution was altered, and administrative bodies came in, the Committee of eight passed *nem. con.* a resolution expressing a general approval of the recommendations of the Royal Commission. He might point out that amongst the eight there was a representative of the Private Schools Association. He could say, without fear of contradiction, that the teachers, whether they were connected with endowed or private schools, had stood together as one man. The Incorporated Association of Headmasters, which he represented, had the same dangers to fear as private schools, though not in the same degree. The endowed schools at present were protected by schemes drawn up by the Charity Commissioners, which had the force of law. Supposing the local authority offered a grant on conditions at variance with any of those set forth in the school scheme, what became of the scheme if—as was generally the case—the governing body wanted money? Therefore the endowed schools, equally with the private schools, desired that the powers of the local authorities should not remain entirely uncontrolled. Legislation of some kind was absolutely certain. It was futile to attempt to keep back that tide. But what kind of legislation were they going to have? Something that would easily get through the House of Commons, leaving local authorities uncontrolled? Or, would all teachers join together, and say to the administrative bodies that they would not have a Bill that established local authority only, without establishing a strong central authority at the same time? That was what this Joint Committee had succeeded in saying unanimously; and the speech which had lately been made by the Duke of Devonshire recognised that very fact. The Duke said he understood that a Bill which would commend itself to all the interests involved must contain a strong central authority in addition to the local authorities. Was it not well that they should stand together on this point, and that the Joint Committee should continue to send up amendments to the Bill, when it was brought in, in that sense? Of course, it would be very easy for one or two bodies to secede. They might do so, but they would so act with their eyes open, having then all the other bodies against them. He felt very strongly that the teachers had an opportunity of getting a Bill introduced such as they would stand to if they would keep together; and he might point out that on the Sub-Committee appointed to consider the question of aid to private schools, on which private schools had had some little amount of difficulty among themselves, Mr. Brown himself had been placed. That was an instance of the fairness with which the business of the Joint Committee was conducted. Having watched the matter very carefully, he could safely say that they had an exceedingly strong body—stronger even than the report stated. As showing how quickly and successfully things were moving, he might say that since the date of the report (December 31st) three other bodies had sent nominated members to the Committee, namely, the University of Oxford, the University of Cambridge, and the London County Council. He felt strongly that the College of Preceptors had done a public service in calling together all the members of the teaching profession, and in thus endeavouring to get their views put strongly before the Government. He was glad that the College of Preceptors, which had set an example and shown the way in so many other things, had shown the way in this also, and with the happiest results.

Mr. Simpson said what Dr. Scott had said sounded very well, but it did not invalidate the contention of Mr. Brown. What struck many people was this, that the College, which was supported mainly by private schools, was being practically made a cloak for a course of action that might possibly result in its own destruction. Dr. Scott had stated that five of the Committee were members of the Council of the College of Preceptors, but he did not say that four of them were representatives of endowed schools. There was, in fact, only one private school representative on the Committee. He contended that the Council of the College was predominantly a Council of endowed schoolmasters—it was not a Council of private schoolmasters. He thought that the constitution of the Committee, as it originally stood, was not in favour of the College of Preceptors. The schools which were likely to suffer were not the endowed schools, but the private schools. It had been suggested that the interests of public and private schools were equally at stake in the prospective legislation; but this had not been shown hitherto in the matter of the tenure of scholarships, which private schools were unable to secure.

Mr. Wilson thought that some of the speakers did not recognise the difficulty in which the College was placed as a corporate body with reference to this matter. The College, having regard to its present position, and the number of public schoolmasters who were among its members, could not advocate a policy solely in the interest of private schools. There was another course which they might have taken, namely, to have remained altogether passive, and left it to other bodies to express opinions on the questions under discussion; but he could not see that the policy of inaction would satisfy the members generally. If they put aside these two courses as impracticable, he did not know that any one had suggested a better method of dealing with the question than that which the Council had adopted. Objection had been taken that the representative of the College on the Joint Committee was a public schoolmaster, but he could not see any justification for this. If he (Mr. Wilson) were a private schoolmaster, he would prefer being represented by a public schoolmaster, who was friendly to private schools, than by a private schoolmaster, who would be open to the suspicion that he was playing for his own hand. As to the question of the tenure of scholarships, the law as it stood did not admit of such scholarships being held at private schools; and until the law was altered the Minister of Education could not but obey it.

The Chairman said that, as reference had been made to the constitution of the Council of the College, perhaps he might be permitted to say that there were some of the members who were connected with neither public nor private schools. He believed it would be found that, of the existing members, twenty-one were, or had been, principals of private schools, while there were twenty-one who were, or had been, masters or mistresses in endowed or proprietary schools.

With reference to paragraph 9, the Rev. J. O. Bevan asked whether the College authorities had decided to grant facilities for the delivery of courses of educational lectures at provincial centres.

Mr. Pinches said the question had been considered by the

Council, and there was every desire to promote, as far as possible, lectures of the kind referred to; but, looking at the expense involved, it was thought expedient to make such provision contingent on the centre being found willing to share the expense.

Dr. Bell thought it a pity that the Training College had not from the first been thrown open to women as well as men.

Mr. Pinches remarked that there had been in existence for many years training institutions for women teachers in secondary schools. There was the very successful one at Cambridge conducted by Miss Hughes, and there was the Maria Grey College now established at Brondesbury. The latter was not full, and it was deemed inadvisable to enter into competition with existing institutions. He regretted that the number of students in their own Training College was not larger, but those who came to it received substantial advantages from so doing, and he hoped it would not be long before the numbers increased. He felt sure that, if they got early legislation, either for the general organization of secondary education, or even a Registration Bill, it would not be long before they saw a considerable increase in the students attending the Training College.

Mr. Wilson asked whether there was any prospect of an increase in the current year.

The Chairman replied that the numbers were about the same as last year. It was true the numbers had been very small, but the work had been necessarily in the nature of an experiment. He agreed with the Treasurer that those who had been through the course, several of whom were personally known to him, derived great benefit from it. He could not leave this subject without paying a high tribute to the energy of the Principal. Dr. Findlay had not only worked very hard at the College in his lectures and in teaching and conducting classes, but also in trying to get support for it. Of course the College had lost money on the undertaking, but then the Council had deliberately put by money to lose. They never expected the college to be self-supporting, but they had hoped it would pay better. He trusted the meeting would cordially support the Council in carrying on this undertaking to what they all hoped would be a successful issue.

Mr. Southee was of opinion that the money that had been spent upon the Training College was one of the best investments which they had ever made. If they were to have efficient teachers in the future, attention must be paid to training; and he had no doubt that when they obtained registration there would be no difficulty in obtaining students.

Dr. Scott said that, having seen a good deal of the work of the Training College, he was thoroughly satisfied with what had been done. No doubt it was a costly experiment, but a great deal of public opinion had been worked up by Dr. Findlay himself. He had heard a little while ago a remark by a gentleman to the effect that, if Mr. Findlay only turned out one good teacher a year, the experiment would be worth making.

Dr. Findlay explained that the Council had decided to throw open several courses of lectures to ladies. Dr. Bell thought the Training College could only be made a success by throwing it open to women: but it must be borne in mind that there were practical difficulties in the way of conducting a college for the joint training of men and women.

The Chairman said, with reference to paragraph 12, he should like to pay a tribute to the late Mr. Beuzemaker, a gentleman who was not only a very competent examiner, but a man of tact who had done much to promote the interests of the College in the provinces, and who had done a good deal of useful unpaid work in stimulating modern language teaching.

Mr. King was somewhat surprised that no mention had been made of the Honorary Fellows who were elected some little time ago. He remarked on the small number of Fellows and Licentiates, as compared with that of Associates, who had passed the diploma examinations, and suggested that some modification of the regulations might be made which would give greater encouragement to Associates to proceed to the higher diplomas.

Mr. Wilson remarked on the unusually large loss that there appeared to be to the College in respect of the *Educational Times* during the past year.

Mr. Pinches, in reply, said it was the case that the sum expended in excess of receipts was this year larger than it had been for some time past; one reason for this was that it had been found necessary to publish large supplements in connexion with the Report of the Royal Commission on Secondary Education and the ensuing Conference held at the beginning of the past year, which had materially added to the cost of production. To the same cause was due a considerable addition to the cost of posting the journal, which last year was more than £120, and was included in the amount specified in the financial statement. The sum spent on editing and contributors had also been considerably increased since the work was undertaken by Mr. Isbister and Dr. Wormell. The present was a time of unusual educational activity, and the College must not be behind the time, even if the cost of doing so were somewhat greater than usual.

The report of the Council and the accompanying statement of accounts were then adopted.

The meeting then proceeded to the election of twelve members of the Council, to fill the places of those retiring by rotation, and three auditors.

The Chairman having appointed Mr. Broadbury and Mr. Dickinson to act as scrutators, the voting papers were distributed, and the election was proceeded with. On the scrutators presenting their report, the Chairman announced that the following had been duly elected:—

Members of the Council.

The Most Rev. the Archbishop of Canterbury, F.C.P.
E. M. Dillon, M.A., LL.D., 19 Albert Square, Clapham, S.W.
H. W. Eve, M.A., F.C.P., University College School, W.C.
W. H. Harris, B.A., B.Sc., Oberlin House, Ealing.
Rev. R. Lee, M.A., Christ's Hospital, E.C.
W. Leetham, Thanet College, Margate.
Sir Philip Magnus, B.A., B.Sc., F.C.P., 16 Gloucester Terrace, W.
Rev G. P. Pearce, M.A., A.C.P., St. Paul's Vicarage, Cheltenham.
W. J. Reynolds, M.A., F.C.P., 55 Addison Mansions, W. Kensington.
J. Stewart, F.C.P., Heatherdune, Bexhill-on-Sea.
Professor James Sully, M.A., LL.D., F.C.P., 1 Portland Villas, Hampstead.
R. Wormell, M.A., D.Sc., F.C.P., Central Foundation Schools, E.C.

Auditors.

J. Bell, M.A., LL.D., 31 Caversham Road, N.W.
Rev. T. Mitcheson, B.A., L.C.P., Clairville, Pelham Road, Wimbledon.
James Swift, 229 New Cross Road, S.E.

The Dean then presented his report, which had been printed and circulated among those present. It was as follows:—

The Dean's Report.

In addition to the general statement of the examination work of the College during the past half-year, which has been embodied in the report of the Council, I have now to submit to you, in detail, the statistics and results of the various examinations.

The Christmas Examination of candidates for Certificates took place on the 8th to the 12th of December at 286 Local Centres and Schools. In the United Kingdom the Examination was held at the following places:—Aldershot, Alton, Alvechurch, Amberley (Glos.), Anerley, Ashford (Kent), Balham, Banbury, Banham, Barnsley, Barnstaple, Bath, Bedford, Bethesda, Betley, Bexhill, Bexley Heath, Biggleswade, Birkdale, Birkenhead, Birmingham, Blackheath, Blackpool, Blandford, Bodmin, Bognor, Bolton, Bournemouth, Bradford-on-Avon, Braintree, Brampton (Cumberland), Brentwood, Bridgwater, Brighton, Bristol, Bromyard, Buckingham, Burnham (Som.), Burnley, Bury St. Edmunds, Buxton, Camborne, Camelford, Cardiff, Carlisle, Carnarvon, Cavendish, Cheltenham, Chepstow, Chertsey, Cheshunt, Clacton-on-Sea, Colchester, Congleton, Cork, Cowes, Cowley (Oxon.), Crewe, Croydon, Derby, Devizes, Devonport, Deytheur, Doncaster, Douglas (Isle of Man), Dover, Drax, Durham, Ealing, Earl's Colne, Eastbourne, Eaton Socon, Eccles, Edinburgh, Eltham, Ely, Epsom, Evesham, Exeter, Exmouth, Fareham, Farnworth (Widnes), Faversham, Folkestone, Gelligaer, Gildersome, Gillingham (Dorset), Goole, Gravesend, Grimsby, Guernsey, Guildford, Halesowen, Halifax, Halstead (Essex), Harrogate, Hastings, Hatfield, Havant, Haverfordwest, Hawkhurst, Hereford, Herne Bay, Huddersfield, Hull, Hunstanton, Ilfracombe, Ilkley, Jersey, Kettering, Kingsland R.S.O., King's Lynn, Kirkby Lonsdale, Langland Bay, Leamington, Leeds, Leek, Lee-on-the-Solent, Lincoln, Liskeard, Littlehampton, Liverpool, Llandudno, London, Longton (Staffs.), Loughborough, Loughton, Lowestoft, Luton, Maidenhead, Maidstone, Malmesbury, Malvern, Manchester, Margate, Marlborough, Melksham, Midhurst, Morecambe, Needham Market, New Brighton, Newbury, Newcastle-on-Tyne, Newport (Mon.), Newton Abbott, Northampton, Norwich, Nottingham, Ongar, Over, Paignton, Painswick, Penketh, Penzance, Petersfield, Plymouth, Pontardawe, Portsea, Portsmouth, Prestonbrook, Putney, Quorn, Ramsgate, Reading, Redruth, Retford, Richmond-on-Thames, Rochester, Romford, Ruabon, Ryde, St. Anne's, St. Helen's, St. Neots, Salisbury, Saltburn, Sandown, Scarborough, Seascale, Selby, Sheffield, Shirley, Shrewsbury, Sittingbourne, Southampton, Southend, Southport, Spalding, Stamford, Stockton-on-Tees, Stonehouse (Glos.), Stroud, Sudbury (Suffolk), Sunderland, Sutton Coldfield, Swindon, Taunton, Tewkesbury, Thirsk, Thorne, Tiverton, Towcester, Trowbridge, Tunbridge Wells, Ullesthorpe, Walsall, Walton (Liverpool), Warminster, Wellington (Salop), Welshpool, Westminster, Weston-super-Mare, Whitchurch (Salop), Wincanton, Winchester, Windsor, Winscombe, Wisbech, Wolverhampton, Worcester, Worksop, Wrexham, Yeovil, and York. The Examination was also

held at Kingston and Stewart Town (Jamaica), Freetown (Sierra Leone), Lagos, and Port of Spain (Trinidad).

The total number of candidates examined was 8,519, of whom 4,813 were boys and 3,706 girls.

Taking the Midsummer and Christmas Examinations together, the total number of candidates examined for Certificates during the year (not including those who attended the supplementary examinations in March and September), was 14,890.

The following table shows the proportion of the candidates at the recent Christmas Examination (not including 95 candidates examined at Colonial Centres) who passed in the class for which they were entered:—

	Entered.	Passed.	Percentage.
First Class	589	373	63
Second Class	3,311	2,181	66
Third Class	4,524	3,479	77

The above table does not take account of those candidates who obtained Certificates of a lower class than that for which they were entered.

At the above examination 57 candidates who took First Class papers in French or German offered themselves for the oral examination (dictation and conversation) in those languages. 67 candidates offered themselves for the practical examination in Chemistry.

1,498 candidates (750 boys and 748 girls) presented themselves for the "Junior Forms" Examination.

At the supplementary Examination for First and Second Class Certificates, which was held on the 1st to 3rd of September in London and at four Provincial Centres, viz., Birmingham, Bristol, Leeds, and Liverpool, 250 candidates presented themselves. The number of candidates examined at these supplementary examinations during the year was 492.

The Christmas Examination of Teachers for the College Diplomas took place on the 4th of January and four following days, in London and at the following Local Centres:—Birmingham, Bristol, Camborne, Leeds, Manchester, Paris, Chefoo, and St. John's, Newfoundland. It was attended by 189 candidates, of whom 114 were men and 75 women. The subjects of examination included the Theory and Practice of Education, Scripture History, English Language, English History, Geography, Arithmetic, Algebra, Euclid, Trigonometry, Analytical Geometry, Latin, Greek, French, German, Italian, Spanish, Natural Philosophy, Astronomy, Physics, Animal Physiology, Zoology, Botany, Geology, Chemistry, Drawing, and Music. On the results of this examination 1 candidate obtained the Diploma of Fellow, 10 candidates that of Licentiate, and 56 that of Associate.

The number of Schools examined during the year under the Visiting Examination Schemes (A) and (B) was 16.

The Preliminary Literary Examinations of the Pharmaceutical Society have been held, as usual, at the times appointed. The number of candidates examined during the year was 1,519. The College has also conducted Scholarship Examinations for the Bromley Local Board and for St. George's Hospital Medical School.

The Dean, in presenting the report, said there was nothing exceptional in it to which he need refer. The percentage of passes was, on the whole, a little higher than usual. The institution of the Oxford and Cambridge Preliminary Examinations had somewhat diminished the numbers entered for certificates, but this had been made up by the number of entries for the Junior Forms Examination.

Mr. Vincent suggested that there was room for improvement in the test for spelling. He himself would prefer dictation as the test, but, as spelling and handwriting were taken into account in the award of marks, he thought it unnecessary to have a separate spelling test. He also thought that some relaxation might be allowed in the rule which prohibited teachers in schools from being present in the examination room while the examination was proceeding; at any rate, in the case of local centres, that permission might be given to the local secretary, who was responsible for the local arrangements, to enter the room.

Dr. Bell hoped that the Council would not accede to the suggestion made by the last speaker. With regard to the special spelling test, he agreed that this might very well be dispensed with.

Mr. Radford suggested that alternative questions might be given in the Second Class paper as well as in that set for the Algebra in the First Class.

The Chairman said the First Class was both a pass and an honours examination, which made it necessary to set more difficult questions with alternatives for pass candidates. As to spelling, it was exceedingly difficult to devise a perfectly satisfactory method of testing it. For his own part he preferred dictation, but the conditions under which candidates were examined at the various centres were so different that he doubted whether dictation could be regarded as a perfectly equal and uniform test. The question of allowing teachers to be present during the examination was a somewhat difficult one. In ninety-five per cent. of cases it would probably be unobjectionable, but there were cases where their presence would be undesirable. Upon the whole, he agreed with Dr. Bell that the rule was a good one, and the inconvenience of it was more apparent than real.

The Dean's report was then adopted.

A vote of thanks to the Chairman concluded the proceedings.

"THE ANGELIC" AGNESI.

By Guy Cadogan Rothery.

In these days, when lady doctors hold official posts, other ladies sit on various Governing Boards, and an army of them are actively engaged in furthering the good cause of education, perhaps a backward glance at the career of a noble-minded woman who achieved a marked and honourable position in the scholastic world of Italy, more than a hundred years ago, may prove of interest.

During the early part of the eighteenth century Italy still retained much of her old position as a centre of liberal arts and learning. Her schools and Universities were in great repute; students of all nations came to hear the grave professors, whose fame spread far beyond the Alps. Learned men came to dispute, the students to be instructed, the speculative to offer their theories, and the men of fashion to loiter elegantly about, picking up some few crumbs of knowledge, and lending the lustre of their exalted estate to the cosmopolitan society. In those days there were at least half a score of Italian cities whose walls shut in a little world of brilliant scholarship and advanced speculation. Milan, like Bologna, Padua, and many other cities, boasted of celebrated schools and renowned University professors. The Signor Professor Agnesi held a high position in the learned circles both of his native city of Milan and of Bologna, where he was called to fill the Chair of Philosophy and Mathematics. He had married in early life, and to this happy union were vouchsafed two daughters and several sons. The elder daughter, little Margarita Gaetona Angiola Maria, was born on the 16th of May, 1718. She was the darling of her parents, and when still very young became an intellectual companion to her father. It is on record that the child, then scarcely nine years old, used to hold conversations in Latin, and on one occasion delivered an address in that tongue to an assembly of her father's erudite friends. The precocious maiden, with her dark earnest eyes and soft and winning ways, argued at length on the advisability of women being duly instructed in the dead languages. She took her assembly by storm, and won their admiration and astonishment. Her thesis was published by her fond parents in 1727. This was not merely a "flash in the pan," as only too often the productions of immature brains prove to be. The maiden travelled along bravely in the same path, and at eleven could hold an animated conversation in Greek. In constant attendance upon her father, she was always present at the gatherings of wits and scholars which regularly took place under his roof. But she did not merely occupy her time with idle converse. Mistress of Latin and Greek, she turned her attention to the Oriental languages, and soon became so proficient that travellers would visit Milan, and afterwards Bologna, purposely to see the "Walking Polyglot." Other branches of knowledge besides these linguistic studies occupied her mind. Speculative philosophy and geometry were her favourite recreations. But at twenty she became alarmed at the tendency of her philosophical studies, and gave them up in dread. Her father, however, solicitous that not a leaf of her laurel crown should be lost, printed ninety-one of her philosophical theses, the book appearing in 1738. Abandoning philosophy, she applied her talents almost entirely to the study of mathematics, and in 1745 startled the learned world by bringing forth her "Instituzioni Analitiche," in two volumes. She dedicated her book to Maria Teresa of Austria, declaring in her dedication that she was encouraged to pursue her studies having the cheering example before her of so great an Empress ruling a vast Empire to the applause of all politicians. "Indeed," she says, "I am firmly convinced that in this age—an age which, from your reign, will be distinguished to latest posterity—every woman ought to exert herself, and endeavour to promote the glory of her sex, and to contribute her utmost to increase that lustre which it happily receives from your Majesty. . . . If the volume of music which my sister has had the honour of presenting to your Majesty has been so fortunate as to excite your voice to melodious accents, let this be so happy as to have the desired effect of employing sometimes the sagacity and penetration of your understanding." The work was divided into four books, dealing with (I.) The Analysis of Finite Quantities, (II.) The Analysis of Quantities Infinitely Small, (III.) Of the Integral Calculus, and (IV.) The Inverse Method of Tangents. In her preface, after duly pointing out what claims her work had to novelty, she goes on to say that "It was never my design to court applause, being satisfied with having indulged myself in a real and innocent pleasure, and, at the same time, with having endeavoured to be useful to the public." We also learn that the work first took definite shape as a guide for the home study of her young brothers. This work brought her much praise and some profit; she was hailed as a master-mind and a great mathematical reformer. It occupied the attention of all the professors of France; d'Antelm set to work to translate the book, which was finally brought out in 1775, with notes

by the learned Abbé Charles Bosset, then looked upon as the greatest of mathematicians. In England, at a later date, the Rev. John Colson, M.A., F.R.S., and Lucasian Professor of Mathematics at Cambridge, put the two tomes into an English dress.

The great event of her life, the triumph of her already brilliant career, had yet to come—and come, alas! through a great personal grief. Her father was taken seriously ill, and had to give up his University teaching. The brave Signorina Agnesi, appealing to the University Council, obtained permission to carry on her father's lectures in the schools. Great was the wonder in the scholastic circles when the rumour flew about that a woman was occupying a University chair, teaching mathematics and philosophy to young students. In spite of some opposition her appointment became definite, Pope Benedict XIV. confirming her in the post.

Lady Mary Wortley Montagu, in one of her charmingly gossipy letters to her daughter, the Countess of Bute, notices this singular and novel event. She is speaking of the want of liberal education among English ladies, and says that learning in women among the French and Italians was not looked upon as ridiculous—far from it, indeed, "the greatest families being proud of having produced female writers; and a Milanese lady being now Professor of Mathematics in the University of Bologna, invited thither by a most obliging letter, wrote by the present Pope, who desired her to accept the chair, not as a recompense for her merit, but to do honour to a town which is under his protection." It is singular to reflect that only a century and a half before this letter was penned the English nobility and gentry were proud of their scholarly sons and daughters. Indeed, during the sixteenth century learning was "so modish that the fair sex seemed to believe that Greek and Latin added to their charms." The nobility, however, soon gave up the struggle.

Just before this great event in her life, the Signorina, then about twenty-nine or thirty, was visited by the garrulous President of the Parliament of Dijon, M. de Brosses, who, in an amusing letter from Italy, gives us a half-length portrait of the lady. He went to see the "Walking Polyglot," with his friend Count Belloni, who accosted the lady in a flowery Latin harangue, appropriate rather to the school than the drawing-room; but she answered at length in equally good Latin, and carried on a learned disputation on the ebbing and flowing of natural springs, much to the discomfort of our plain honest President. However, he tells us that she spoke on these subjects "like an angel," though he omits to tell us how he became aware of the manner in which angelic scientific discussions are carried on; but we cannot help laughing at the poor President's evident alarm at the young woman's learning—and even sympathising with him. The Signorina soon put him at his ease with gentle kindly talk on things in general. Then she had to sustain a dispute with a lively Sieur Loppin on geometry. The Frenchman spoke in his native language, but the fair disputant preferred to answer in Latin, lest she should get confused in matters technical. M. de Brosses, who during this interview seems to have behaved with better grace than his *showmen* friends, tells us that the young philosopher was much attached to the Newtonian theories, but declared she preferred not to talk on these matters before a mixed company, for fear she might tire them; whereat the President expresses his unbounded admiration. The interview ended in a family chat, and then the younger sister got up to play some of her own music, accompanying her pretty voice on the harpsichord. The Frenchman was now more at his ease. He shows us these two sisters in very bright colours, and, on the whole, does not greatly alarm us with his two delicate prodigies.

Tired at last with the noise of the city, the battle in the schools, the Signorina Professore again forsook philosophy, and joined the fold of the Roman Catholic Church as a refuge from the world. Resigning her chair, so familiar to her after long years of labour, she took the veil in that most strict of orders, the Blue Nuns, or Sisters of Charity. She could not belie her quick, ardent, and persevering nature, so gave herself up to a study comparatively new to her with great fervour, and soon became as renowned for her erudition in the doctrine of the Church as she had been before in the exact sciences. Blessed with a not inconsiderable fortune, when but half her life-course was run, she retired from her friends and the wide circle of her admirers, at the dictates of her conscience, to devote the rest of her days to the poor and sick. In her new walk of life she again won applause, and became the idol of the populace, who were ever ready to look upon their kind, generous, and devoted friend and guide as a saint. In this active employment the learned Margarita Gaetona Agnesi, the pious Sister Maria, passed away quietly and happily in her eighty-second year, on the 4th of August, 1799.

In this learned lady we find a good daughter, a loving sister, a great and useful scholar, a firm and enlightened citizen; but, in spite of all the admiration that fame could bring, the gentle Signorina remained thoroughly helpful and womanly throughout her long life. Her learning and the praise of many could not spoil her golden nature. We recognise in her a true heroine—proof against temptations and pride, true to her affections, and, that most tender of missions vouchsafed to tender-hearted women, to be the help of her fellow-beings and the soother of the afflicted.

FINDINGS OF THE ROYAL COMMISSION ON SECONDARY TRAINING.

By W. M. Hardman, M.A., Assistant-Master in the Godolphin School, Hammersmith.

The object of this paper is to set forth briefly, and in accessible form, the state of opinion on the training of teachers for secondary schools as shown by the Royal Commission. For this end the Commissioners' Report and Recommendations on the subject, together with the evidence and memoranda laid before them, have been read throughout and carefully studied, under the headings provided by the index. The material thus gathered has been re-cast in the more logical form of a connected sketch. Reference to names has been given only in exceptional cases, but such reference can, if needed, be provided for every statement made.

1. *The Necessity of Training.*

The Commissioners "are disposed to think it generally desirable that those who intend to adopt teaching as a profession should pass through a course of special preparation for it." That secondary teachers should be systematically trained was disputed by but one witness, Mr. E. E. Bowen, of Harrow, who, arguing from the standpoint of the great boarding school, maintained that character and ability are of such paramount importance in a master that the additional skill, if any, to be gained by training was as dust in the balance; yet even he was constrained to admit that for day schools of all grades such skill might be of some slight value. All other expert witnesses, inspectors, principals of training colleges, representatives of School Boards, and men and women actually engaged in teaching, from the University to the primary school, were practically unanimous in holding professional preparation a proper means to practical efficiency.

2. *The Results to be Expected.*

In assessing the merit of teachers, training may be expected generally, as it has been proved in experience, to raise the individual at least "a class"; the indifferent thereby become moderate, the moderate good, and the man who would profit most is the man of greatest natural aptitude. And, further, all not absolutely incapable of keeping order may learn much of the difficult art of discipline.

3. *The Matter of Training.*

This consists of two distinct and separate factors: first, a good general education; secondly, the special professional study. (1) The ideal is that all secondary teachers should have a University degree, if possible with one strong subject, or at least an amount of culture equivalent to a degree. Such liberal education should have been completed before the special study is commenced. Only one witness was found to suggest that a special study of theory might be made part of all or any Honours course at the Universities. (2) The Commissioners recommend that, whatever professional training is provided for teachers, it ought to have both (A) a theoretical, and (B) a practical, side.

A. The theoretical side includes: (i.) such study of physiology and psychology as may help the teacher to understand the development of the child's mind, of logic as to lead to a clear presentation of the subjects of instruction, of ethics for guidance in the formation of character; (ii.) the consequent study of method, both generally and for special subjects, and of the value of various subjects; (iii.) school management, that is, the organization of the school as a whole in its corporate life—under this head some would add a knowledge of hygiene, of school architecture, of gymnastics, of systems in vogue in other countries, and of the general administration of education in Great Britain; (iv.) the history of education, that is, of the growth of educational ideas, and the part played by great educators.

B. The practical side includes two distinct stages: (i.) instruction in the actual business of teaching, which is to be obtained by watching good teaching and by teaching under competent direction and criticism; (ii.) a prolonged period of trial, in which the student is teaching largely by himself, but under the general supervision of an experienced person. This, called by Mr. Arthur Sidgwick "apprenticeship," is what is meant by "probation" in the proper sense, and answers to the term "on trial," with which most teachers at present begin.

4. *Relative Value of Theory and Practice.*

On the relative value of theory (A) and practice (B) opinion differs. Witnesses whose experience has been mainly of elementary schools are apt to emphasise the practical art, whilst those who have acquired their skill in teaching in Universities or secondary schools, and studied education for themselves, lay greater stress on the scientific theory.

5. *Order of Theory and Practice.*

On the order in which these branches should be studied there is a general consensus of opinion, endorsed by the recommendation of the Commissioners, that theoretical study and practical instruction should go hand in hand; should, to use Professor Sully's expressive phrase, "interpenetrate," for the more closely the two are associated, the better

will the theory be understood and the more intelligent will be the skill acquired. The view that theory should precede practice and be studied together with a liberal education finds as little support as that view which holds that practice should come first—for why then study theory?

6. *The Time needed for Training.*

The absolute minimum of such a study of education as sketched above can hardly be defined, and must vary largely with the time which can be afforded for it by the student; it should, however, be at least sufficient to enable teachers to continue their theoretical studies on right lines, and to apply the results to the criticism of their own practice during their period of probation and throughout their professional career. It is generally conceded that the special study of education should follow after the student's general education [3 (1)] is completed. For such a post-graduate course, one academic year—that is, three terms of ten weeks each—is sufficient. This has been the general experience of secondary training colleges, though in individual cases of exceptional weakness or excellence two years may be requisite or advisable. To this period must be added the year or two needed for the practice of apprenticeship (3 B ii.).

7. *The Machinery of Professional Education.*

On the system by which training is to be got the Commissioners make no definite recommendation, stating that "the whole subject is at present in the experimental stage, and will best advance by the encouragement of variety in experiment." The means to be thus employed fall into two classes. In the first (i.) are (A) the Universities and University Colleges which may establish schools or departments of education, and (B) training colleges specially created for secondary teachers. In the second (ii.) we find the system of student teachers in a large school having a special department for them (this system is sometimes *incorrectly* referred to as probation, and the students as probationers). This plan must be carefully distinguished from B, the period of a trained teacher's practice on trial (see 3 B ii.). Witnesses were found emphatic in their praise and preference of any one of these ways, but none were bold enough to wholly condemn any. Before dealing with the details of these systems, it seems best to discuss three questions common to the methods of all.

8. *The Utilization of Elementary Training Colleges for Secondary Teachers.*

On the one hand it is argued, especially by the trained elementary teacher, that, as the matter and the method are the same, and as child-nature is the same, the training should also be the same, and therefore given together. On the other hand, it is objected that, though the underlying principles are identical, yet the methods of teaching must differ with the size of the classes, with the subjects taught, with the greater intelligence of children, while the development of intellect and character in children varies according to the ease and culture of the home, and must in secondary schools be carried to a further point.

Further, it is urged that, while the elementary training colleges mainly concern themselves, as they do at present, with giving to some extent that liberal education which the secondary student will have already acquired, the pace at which the respective classes of students travel in the acquisition of professional knowledge will differ with the intellectual development too widely to allow of simultaneous training. This is made impossible not so much, nor only, by variety in the spheres to which they will go as teachers, as by the difference in general education they bring as students.

Elementary training colleges could therefore only be utilized if altered by separating the general education there given, making it precede the professional, and requiring secondary teachers to take only the professional course: the gains would hardly compensate for the difficulties created by these changes.

9. *Mixed Training Classes.*

In elementary training colleges women are not up to the standard of men, and in provincial colleges are found to require special coaching to enable them to keep up. On the other hand, mixed day training colleges are held by Dr. Fitch to be solving the problem experimentally with success; a mutual quickening of intellect and interest should follow, according to Miss Woods; and, if the ideal be the mixed school, as Miss Hughes thinks, though the Commissioners commend mixed schools only where the district will not maintain good separate schools, training should be given jointly.

10. *The Provision of Schools for Practice.*

As instruction in practice is an essential factor in training, whether given by Universities, in training colleges, or to student teachers, there is in any case an imperative need of a school or schools in which the student may learn to apply theory under direction and criticism. One view strongly urged by Miss Woods, Principal of the Maria Grey Training College for Women, is that the director of training should be also principal of the school for practice. This system of one direct control over both the school and the students affords greater opportunity for constant and for continuous practice, supplies models and critics of teaching, and further, has the advantages arising from the corporate life and organization of the school as a whole.

Another view is that many schools are required for practice, both to meet the needs of a number of students and to show them variety in methods and management. The ideal would be a combination of both systems wherever it were possible. The efficiency of the school or schools thus used is held generally to be in no way impaired, the children and teachers are stimulated, and the parents in the end approve. The practice of probation (3 B ii.) will also need schools ready to receive and supervise such students; supply will meet the demand made here.

After this consideration, in 8, 9, 10, of the questions referred to in 7, it is possible to pass to details on the machinery of professional education.

11. *The Institutions for Training.*

1. A. *The Universities and University Colleges.*—The Commissioners, supported by a strong consensus of opinion, recommend that "the Universities and University Colleges should be looked to for provision of professional education," as a post-graduate course. The theoretical training could be there supplied by the creation of chairs of education, scientific and historic; the size of the towns would furnish ample scope for instruction in practice under lecturers in method to direct and criticize the actual teaching done by the students; and the suggestion was made by the authorities of the Victoria University that the method of special subjects could be learnt from professors of such subjects. An objection to the provision of practice by the Universities was taken on the ground that their province is rather to provide training for the intellect than to teach the tricks of a trade, and that, while the University may be fairly expected to furnish the scientific basis, as in medicine, the art should be left to schools, as to hospitals. Thus, then, would virtually arise secondary training colleges, either residential or day, mixed, as in University Colleges, or separate, as in the Universities proper, equipped with a sufficient staff of specialists, and forming as schools of education an integral part of the University body.

1. B. *Training Colleges for Secondary Teachers only.*—Those which already exist are either, as at Cambridge, already in a close relation to a University; or, as the Maria Grey College for women, and the College of Preceptors for men, ready to be brought into line with the teaching University for London which is still a hope of the future.

A. *The Training Department of a School.*—This is an adaptation of the system of apprenticeship, as in the case of pupil-teachers; it is the plan in operation in the Cheltenham and Datchelor Colleges for girls, and is that long since approved by the Headmasters' Conference. By an unfortunate confusion in terms, persons thus being trained are referred to by some witnesses as student teachers, by others incorrectly as probationers. The distinction between them appears to be that student teachers, having completed their general education, are engaged, generally in public secondary schools, partly in actual teaching under direction and criticism, partly in studying the theory of education, *and they pay for it;* the so-called probationers, on the other hand, teach in private schools, and are taught toward the completion of their general education, *and are paid.* In so far as this distinction is real these so-called probationers are obviously not trained in any proper sense; and, if such a system be countenanced, the numbers of such persons in any one school must be limited by authority, for the sake of the school's efficiency. The system of student teachers is only advisable, perhaps only possible, in big schools, which would secure the advantages of the directly controlled school for practice (10), while the smaller number of students would allow for adaptation to the individual bent. The theoretical side of the study of education might be provided either by a peripatetic lecturer as in the University Extension system, or by grouping together of schools in big towns as in the Pupil-Teacher Centre of the London School Board. The objections put forward against this plan are that the interests of the school must always override those of the students; that student teachers are frequently disheartened by the drudgery of marks and corrections; that existing head-teachers, especially in boys' schools, are rarely competent to give the theoretical training required, nor can they spare time from their teaching and administrative duties to study either the subject or the students; and that, if one special teacher of method be put in charge, the training is apt to become narrow and stereotyped.

2. B. *Probation of the Trained Teacher on Trial.*—This valuable suggestion, made by Mr. Arthur Sidgwick, has been mentioned before: it is that the teacher, after study of education and instruction in practice at the University or training college, should for a year or two, if need be, serve in a school to be recognised as efficient, teaching mainly by himself, but under the general supervision and criticism of the headmaster or mistress, and that only when this period of trial has been satisfactorily passed should the teacher be considered fully trained and ready for admission to the teachers' register.

12. *Needs of existing Teachers.*

It is obvious that all means of theoretical study afforded by institutions for training could be made available for those already occupied in teaching, either through evening lectures or through holiday courses.

13. *Tests of Training.*

The Commissioners recommend that for registration two tests should

be ultimately required, to be given either by the Universities or by a body recognised by the registration authorities:—(i.) a degree or certificate of general attainments; (ii.) a certificate of adequate knowledge of the theory and practice of education.

The first of these tests [3 (1)] should be satisfied before training begins, and evidence of it should be produced as a condition of admission to any training institution. It was generally held that theoretical knowledge (3 ii. A) could be fairly tested by examinations conducted by the Universities. A higher standard than that now required by the Universities was demanded by those who thought that a new degree in education, above and beyond the B.A., should be created. In any case, satisfactory evidence of theoretical knowledge should be required as a condition for the tests of practical efficiency. These should be twofold. Instruction in practice (3 B i.) may be tested as at present by the actual handling of a class before an examiner, supplemented by the report of the director of the training, and oral questioning by the examiner. Many, however, considering this alone as inadequate, require satisfactory proof of probation (3 B ii.) before the full certificate of professional attainment be granted. It was held essential that practical skill be estimated by practical teachers, and that precaution be taken, as by the cooperation of an assessor representing the central authority, to secure a rough uniformity of standard.

14. *Finance.*

A. *The Cost of Training.*—(i.) It was generally conceded that any training institution should pay its own annual expenses from students' fees (but compare B ii. below). (ii.) The cost to the student, as found in existing colleges for women, is, with an average of 50 students, £65 a year in residential or £30 in day colleges. For men the residential expenses would probably be somewhat higher, and may be estimated by comparison with those at the theological colleges.

B. *How far should Aid be supplied?*—On this point the Commissioners made no recommendation, and the views expressed differed widely. (i.) It was suggested that in so far as existing endowments are not available, nor is sufficient provision likely to be made by private munificence, State grant might reasonably be expected for the creation of professorships at Universities or University colleges, and for the supply of necessary buildings, for which the existing colleges for women are indebted to private benefactions. (ii.) It was also asserted that students must be maintained either wholly, or in part, during their training; that ample provision of scholarships should be made for this purpose, especially by the continuance of college scholarships to the holders for the year of post-graduate professional study; that, in short, as secondary education is equally a matter of national interest with primary, State aid might be expected for secondary training to the same extent as it has been provided for primary. On the other hand it was urged that in the interests of the profession, entrance to it should not be made too easy; that special professional preparation would be more appreciated, and the need of it more widely recognised, in proportion as the intending teacher had to pay for it; and that many, especially men, drift, as things are, into teaching after a period spent in looking about them for an occupation.

C. *The Sources for Aid.*—On the whole, the Commissioners incline to look to the Universities to supply the means of training. So far as the expense needed to maintain efficiency must involve excess above the fees received, it should be met by State-given aid, such aid bringing with it some right of representation in control. Local control, conseqent on aid from rates or from the money devoted to technical instruction, might be cramping, and the interests involved are wider than those of any local area. Imperial control, which must accompany any Parliamentary grant, must tend, as it has, to the establishment of a stereotyped uniformity.

TEACHERS' DIPLOMA EXAMINATION.—PASS LIST.

JANUARY, 1897.

Theory and Practice of Education.

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Theory and Practice—continued.

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REVIEWS.

Physiography Rehabilitated.

Physiography for Beginners. By A. T. Simmons, B.Sc. (Macmillan.)

It is one of the perennial discoveries of the pedagogic writer that, under existing conditions, the quality of the teaching of a subject, the bare teaching almost of any subject (whatever the quality), depends upon examinations. The examiner, the examining board calls the tune, and the teacher, toiling text-book maker, dealer in apparatus, diagram maker, and the rest of them after him, must needs trip it accordingly. The subject of physiography, for instance, was, for years, an example of how examination may unfavourably affect educational work, as now it promises to exemplify the comforting converse. In its old form physiography was a name for (if one may phrase it so) elementary omniscience. Originally designed to be an introduction to scientific thinking and a sketch of the sciences, it became, by dint of careless question-setting and unintelligent syllabus-drafting, a disorderly accumulation of irrelevant facts, a sober sort of "Questions worth Answering." The excellent, but impracticable, examiners of those days were particularly fond of asking: "What is energy?" of the candidates in the Lower Stage —What *is* energy? The barometer, "Name three common rock-forming minerals," and deep sea deposits, were safe tips. And, in the Advanced Stage, the spectroscope was the key to all knowledge, terrestrial or sublime.

The text-books too, necessarily, have a touch of the same quality—even the best of them. Try as he would, the author of such a volume could scarcely hope to build into an orderly and educational relevancy the whole mass of facts which examiners might require—and, as a rule, he did not try. For the most part the old "physiographies" were compilations, compiled in the spirit of the marine star, and shirking lucidity upon difficulties by the expedient of acknowledged quotation. But all this has been altered now—or most of it. A syllabus permitting, and, indeed, clearly indicating, a methodical development has replaced the old chaotic list of samples, and prompt on the heels of this appears this new text-book, first-fruits no doubt of an abundant crop.

As first-fruits it is a remarkably promising volume. And even on its own merits it is a book to note a little more fully than the common run of text-books. Mr. Simmons, like Mr. Earl, who has done such excellent work for physics teaching in the last few years, is a science master in a secondary school, and it should be a matter for congratulation, particularly in this column, that this sort of work is falling to this class of worker. There was a time when many of these books were written by elementary teachers, "grant-earners," men indisputably able in the organization and effective discipline of large classes, but loose of phrase, lax of thought, and singularly reticent whenever more than the rudiments required explanation. The typical elementary physiography of this class always went wildly wrong upon the atmospheric circulation, and altogether to pieces on Foucault's pendulum. And after that was a period of professors and demonstrators—for there is a sort of apostolic succession in the professorial capacity to undertake all things — whose wealth of knowledge was only exceeded by their wealth of ignorance of school needs. The well educated and well seasoned secondary science master seems to offer the happy medium between the facile shallowness of the former and the carping technicality of the latter type.

Mr. Simmons has evidently written his book with extraordinary care, and to read his chapter on "Energy" is to be convinced that he is a teacher of very exceptional ability. In the old books, it was usual to utter just simply: "Energy is the power of doing work." Later it was found by examination results that this failed to impress the students sufficiently, and the expression was altered to "*Energy is the power of doing work.*" This failing also, stronger measures were taken—"ENERGY IS THE POWER OF DOING WORK," and so he was at last impressed, and he learnt it by heart and went in and passed. But Mr. Simmons seems to have set himself resolutely to building up a conception of energy in the minds of his readers, and, to the present reviewer's mind, at least, he has done it with perfect success.

There are certain points to which a seasoned reviewer of books on physiography and physical geography immediately turns. There is that ancient description of the atmospheric circulation which represented two winds blowing through the same point, one down, one up, at the tropical limits. It seems almost incredible, but it is gone. Mr. Simmons presents us with a bare statement of the facts, as much as any man is justified in giving. It is, however, to be regretted that one arrow in Fig. 105 (in the right-hand corner) is drawn round the wrong way: this should be cut out of the block in a second edition.

Then we turn to the chemical preliminaries. There is a chapter thereon in which "atoms" are never mentioned, and, what is more remarkable, no chemical symbols are used. But the definitions of "analysis" and "synthesis" come after the definition of "element," which seems a little clumsy. That, however, is a small matter in comparison with the larger, and, turning from the chemistry to the mineralogy, we find, what we have never found in any former work, that the mineralogy refers back to the chemical section, and illustrates and applies it. On another point, however, Mr. Simmons fails. When will text-book writers really grasp the necessity of one short sentence to avoid the clash of ideas between *porosity* and *impenetrability* when the properties of matter are discussed.

Intercalary in the text are pithy but practicable experiments. Many of them are Mr. Simmons' own, but a large proportion are those prescribed by the Departmental syllabus. We must confess we prefer the former selection to the latter, which includes, among other inconclusive displays, the extremely illogical one of heated balls of different metals melting their way through a wax cake. The directions are in all cases explicit and thoroughly practicable. This feature of experiments, together with Mr. Simmons' distinctive lucidity, renders the book applicable to a purpose other than that for which it was primarily

designed, and it would serve admirably as a source of introductory lessons in experimental science for the lower forms. And in this connexion an acknowledgment might have been made to Mr. Earl for the illustration on page 41, showing the use of the cheap counterpoise weighing machine, which Mr. Earl was, we believe, the first to introduce into the school-room. This should be remedied, and, further, a list of errata should be supplied with all further copies of the book issued by the publisher. Printers' errors are the common fault of all first editions, and we have happened on at least two (counting them two in charity) very serious ones: on page 242, 2° C., 4° C., and 22° C. are written for —2° C., —4° C., and —22° C.; and on page 193 he moon is made to approach the "sun" (for "earth") at its perigee.

In spite of these small blemishes, the book remains a very excellent piece of work indeed. It comes first into the field under the Departmental syllabus, and it will very probably hold that field. In addition to its examination uses, it has a distinct educational value, and it is well worthy the attention of masters in secondary schools. A selection of examination questions for the Local Examinations concludes the volume.

Darkest Rome.

Gregorovius' History of the City of Rome in the Middle Ages. Translated by Annie Hamilton. Vol. IV. (Bell & Sons.)

Every epoch in the history of the Eternal City during two and a half millenniums of marvellous vicissitude is charged with deep and far-reaching interest. There is always something for the student of art, of religion, of history, for the child of civilization, for the lover of romance. Much depends upon the point of view from which we regard it, but every chapter of the annals of Rome is engrossing for one reason or another. The fourth volume of Gregorovius, which the publisher of the English translation has bound in two separate parts, covers the eleventh and twelfth centuries, and carries us from the papacy of John XVII. to that of Celestine III., from the first irruption of the Normans to the origin of the Vatican Palace. Within that period we find ourselves successively in presence of the last King of Italy before the day of Victor Emanuel; of the English King Canute, who visited Rome as a pilgrim, with wallet and staff, and vowed at the shrine of St. Peter to govern his subjects justly; of the child-Pope of twelve, "more boyish than Caligula, more criminal than Heliogabalus," whom one of his successors denounced as a thief, a murderer, and a profligate; of the Scots King Macbeth, seeking pardon for his crime by penance and alms-giving; of Damiani and Dominic, the hermits and the monks; of mighty Hildebrand (Gregory VII.), who set his foot on the neck of the Emperor at Canossa—a landmark of history beyond all question, though we hear less frequently of the quintuple siege of Rome which followed, of the destruction of the city, and the exile of Hildebrand. Immediately after the disappearance of this heroic figure, we are plunged into the mad fever of the first Crusade; the French and Romans pass through Rome on their way to the Holy Land, and Cœur de Lion marches with his troops at no great distance from the city; the Papacy rises from its ashes again, and becomes more magnificent than ever; the Colonnas, the Frangipani, the Pierleoni begin to move across the stage; the princely cardinals build their sumptuous palaces; and, in splendid antithesis to these, we greet the noble Saint Bernard and the high-minded but unfortunate friend of Abélard, Arnold of Brescia, whose execution must be laid—at least, in part—to the charge of the only English Pope.

These are but a few of the leading features of the history of Rome in the darkest middle age, which has left us comparatively few and scanty materials for authentic history. The poverty of contemporary chronicles is responsible for the very inadequate knowledge which we possess of our countryman Nicholas Breakspear, and yet the mendicant son of a St. Albans monk, who had lived to place the tiara on his head, gave ample proof of English pluck and resolution, to the extent of laying an interdict on the city of Rome, and making a German Emperor, Barbarossa to wit, attend him as his groom. It has been said above that the death of the reformer Arnold, one of the founders of the Republic of Rome, was in part the work of Adrian IV. Arnold was Adrian's prisoner; but Adrian was himself a fugitive from Rome, under the protection of Barbarossa, and with no executive power at his command. He condemned Arnold as a heretic, but it is not clear from whom the death warrant proceeded. In any case the responsibility must be shared with Adrian by the Emperor Frederick, and by the Roman prefect in whose charge the prisoner had been placed, and who was a bitter enemy of the Roman commonwealth. Gregorovius does not fail to note the historic significance of Arnold's career.

> Rome, oppressed at the same time by the weight of her ancient greatness and by the two supreme powers in the world, could not permanently maintain her civic freedom. The constitution, to which Arnold may, perhaps, as a law-giver, have largely contributed, nevertheless long survived him, and the school of the Arnoldists or politicians never died out. Arnold is the historic precedent for all the forces, theoretical or practical, which have revolted against the secular character of the clergy; this so much the more because his aims were not sullied by any sordid motives . . . . He seems to have been sane, manly, and clear; whether it is that he really was so, or that history has withheld many circumstances of his life. His teaching was of such enduring vitality that it is still in harmony with the spirit of our time, and Arnold of Brescia would now be the most popular man in Italy.

We must not omit to congratulate the publishers and the translator on the promptitude with which they have produced the successive volumes of this interesting and serviceable work.

Methods of Training.

Aus dem pädagogischen Universitäts-Seminar zu Jena. Vol. VII. (Langensalza: Beyer & Söhne.)

This volume should be of interest in England at this moment, in the many quarters where the problem of teachers' training is being investigated. It is now ten years since Professor Rein opened his University Training College at Jena, with eleven students. The attendance has now reached eighty. His former pupils and colleagues have, therefore, thought the occasion appropriate to offer him a testimonial, and they have prepared this volume as expressing, entirely in the spirit of their "Seminar," their appreciation of his work. For what better testimony can a teacher desire than evidence from the work of his pupils that they are following in his steps?

The volume before us is a sequel to six others (which have been issued in successive years by Professor Rein), each containing essays and records of experimental work done during the year preceding. This year the volume has been edited by the chief assistants who have conducted his practising school since 1886, and they have sought contributions from other members of the College. One or two of these are likely to be of permanent value, especially the article on Pestalozzi as a social reformer, by Adolf Bär, and that on "Die Pflege des Zeitsinnes in der Schule," by Herr Rektor Scholz, who is already known and appreciated by the English teachers who have visited Jena. A short article by Miss C. Dodd, of Manchester, is included. As it is the only contribution from a lady teacher, we regret that it contains some inaccuracies of statement with reference to English education. Mr. Findlay finds a place among the correspondents who send an account of what is being done in foreign countries to extend the study of education as a scientific pursuit. He makes a point of the fact that while in the United States the disciples of Herbart have formed a club and community apart from other students of education, in England he anticipates that nothing of the kind is likely to occur. But he gives frank testimony to the influence of Herbart's teaching, and we may perhaps quote this testimony at length, for, although, as Mr. Findlay says, many students have recently been required to read Herbart for examinations, very few English teachers have as yet come into close contact with his school:—

> Bei mir, wie bei vielen anderen, wirkten sie wie eine Offenbarung auf das pädagogische Denken. Die Menge von eitlem Gerede, das vorher als Theorie der Erziehung mir genügt hatte, war jetzt verdrängt, und an seine Stelle trat ein wohlgeordnetes Gedankensystem, das mich einerseits zu den höchsten Zielen der Menschheit führte, andrerseits den strengen Forderungen der exakten Wissenschaft entsprach. Aber dieses System ist nicht das Ende . . . . Wer Jena verlässt, vollständig zufrieden mit dem hier Erworbenen, ohne Verlangen nach weiterer Forschung, der hat kaum die Lehre begriffen, die unser Seminar vertritt. Wir werden am besten Herbart und seine Schule ehren, wenn wir seinem Geist des Forschens nachahmen, wenn wir den Versuch machen (obwohl die Arbeit schwierig ist!) die Lehre anzuwenden im Licht der neuen Erfahrungen, die jeder Morgen vor unsere Augen bringt. Nur auf diese Art können wir Herbart auf die Stelle heben, auf der er stehen sollte, das heisst, ihn nicht als Begründer einer bestimmten Partei, oder als Erfinder eines Lehrpatents, sondern als den Führer aller derjenigen Lehrer, die der Wahrheit auf dem Gebiete der Erziehung und des Unterrichts näher zu kommen täglich bemüht sind, betrachten.

If Mr. Findlay's standpoint is accepted, it would follow that the Pestalozzians and the Froebelians would do better service to

the theory of education if they refused to be limited by the practice of a master.

The reports from other foreign countries are no less interesting, and they give evidence that Professor Rein's influence has extended in a really remarkable fashion during this short period of ten years. If, after ten years' service, any of our English training colleges could offer literary work from students of a similar character, our English teachers would begin to have more confidence in the study of education and in our methods of training.

A New German Dictionary.

(1) *Deutsches Wörterbuch.* Von Professor Dr. Moriz Heyne. Drei Bände. (Leipzig: Hirzel. London: Siegle.) (2) *Deutsches Wörterbuch, Kleine Ausgabe.* (Same author and publisher.

(1) The attention paid by a people to its own language may be considered as a criterion of its national feeling, not only from a political, but also from an ethical point of view, and, just as the feeling of nationality has at no time manifested itself more strongly among the civilized peoples of Europe than during the present half of the nineteenth century, so we find that the study of the respective national languages was never before more zealously pursued. Germany offers a striking example. Whilst in former years German scholars used to devote the study of a lifetime almost exclusively to the ancient languages, they began soon after the "Wars of Liberation" to cultivate scientifically their mother-tongue, thus laying the foundation of Teutonic philology. It was, however, at the beginning of the fifties that this new science received a fresh impetus, more especially in the field of lexicography. Jakob Grimm issued in 1854 the first instalment of his monumental "Wörterbuch," and in the same year the erudite Germanist, Dr. Daniel Sanders, published a "Programm eines neuen Wörterbuchs der deutschen Sprache." Six years later the first volume of the latter's great "Wörterbuch der deutschen Sprache" appeared, which will for ever remain indispensable for the literary student of the German language. The study of German took a fresh and vigorous start after the political regeneration of Germany about a quarter of a century ago. The Germans began to cultivate their mother-tongue with greater zest than ever, and the result was a remarkable increase of facilities for its study. To this circumstance we presumably owe the publication of Professor Moriz Heyne's "Deutsches Wörterbuch," which now lies before us in two different editions.

The larger edition, consisting of three stout volumes, contains all the German words used in the modern "Schriftsprache," or literary language. The author first gives the original meaning of the respective words, and, after briefly recording their origin and morphology, or "former history," he illustrates their uses and various significations by quotations from acknowledged authorities. Finally, the combinations or compounds from the main word are given. The external arrangement is excellent, and greatly facilitates reference. Each page is divided into two columns. The main words, their derivatives and compounds, are printed in conspicuous German type, and the explanations and definitions in smaller but very clear German type, whilst for the quotations Roman type is used. This variety of type offers great advantages, since all the words forming the German vocabulary can be discovered at a glance, however long the single sections belonging to the same words may be. The learned author has, moreover, endeavoured to facilitate the use of his dictionary in other ways. Thus, in treating of the inseparable prefix "un," he states at the top of the pages with which classes of words it is respectively compounded. For instance, "un- (vor Substantiven)," "un- (vor Adjectiven und Adverbien)," &c. This ingenious arrangement relieves the reader from the tedious task of reading through the whole section, which fills upwards of ten columns, when he is in search of a word compounded with "un." Foreign words have been excluded, with the exception of those which have been naturalized in Germany; but, guided by this principle, we think that the author ought to have included the word "Korporal," in the same way as he has inserted the word "General."

(2) The "Kleine Ausgabe" of Professor Heyne's "Deutsches Wörterbuch" differs in several respects from the larger edition. The page and the various types are the same, but, whilst the latter contains well-nigh 4,000 columns, the former has only about 1,300. This reduction has been effected by the omission of the purely philological element, such as the origin and history of the words, and by a sparing use of the quotations from authors. On the other hand, the uses of the individual words have been fully illustrated by examples from the current "Sprachgebrauch." The smaller edition has, besides, the advantage that it contains a number of words which have accidentally been omitted from the larger edition. As regards the accuracy and correctness of the work throughout, the name of Dr. Moriz Heyne, who is one of the most distinguished Germanists of our time, and the author of several volumes of Grimm's "Wörterbuch," is in itself a sufficient guarantee, and we must be grateful to him for having devoted upwards of ten years of his life to the completion of what seems to us the most tedious form of literary workmanship. At the same time a word of praise is due to the Professor's wife, who has assisted him in his laborious work.

We can cordially and unreservedly recommend both Professor Heyne's dictionaries to English students who have a fair knowledge of German. The larger edition will be found specially useful by those who study German philologically, and for higher literary purposes; whilst the smaller edition, the object of which is to serve as a handy practical dictionary, is thoroughly trustworthy, which is more than can be said for some of the German-English dictionaries in common use in this country. Both editions of Heyne's "Wörterbuch" are decidedly cheap.

Tennyson Exegesis.

The Growth of the Idylls of the King. By Richard Jones, Ph.D., Professor of English Literature in the University of the State of New York. (Philadelphia: J. B. Lippincott Co.)

In the course of a hundred and fifty well-written pages, Professor Jones describes the growth of Tennyson's *Idylls of the King.* He deserves the thanks of every student of Tennyson for the labour and zeal with which he has collated early proofs, private copies, and the various published versions of the Arthurian poems; and not less for the soundness of the far-reaching generalization which he has deduced from this thorough examination of facts. His contribution to the literature of Tennyson is of high and permanent importance, and it deserves to be widely recognized. An appendix to his volume contains a much longer and hitherto unpublished version of the late Laureate's stanzas "To the Queen."

It may be added that the recent appearance of the second volume of "Literary Anecdotes," by Dr. Nicoll and Mr. Wise, lends additional interest to the work of Professor Jones. In their preface the editors of the "Anecdotes" "beg to draw attention to the section entitled 'The Building of the Idylls.'" Yet, in a book which contains much that is interesting and useful, this very section seems to us the least satisfactory of all. And for this reason chiefly, that, with the exception of a few comparatively unimportant additions, the information offered by "The Building of the Idylls" was to be found already in *The Growth of the Idylls;* and the student who would gain a full knowledge of the subject must consult not only the "mere gossip" (if we may repeat the modest words used by the editors themselves) of "Literary Anecdotes," but also the comprehensive and scholarly treatise of Professor Jones. Another book which bears the same date as the treatise of Dr. Jones, and was the first in this country to describe and point out the significance of "The True and the False," "Enid and Nimnë," and other Tennysonian trial copies, is the "Handbook to Tennyson," of Mr. Morton Luce, published by Bell & Sons.

A Mathematical Experiment.

Elements of Geometry. By A. W. Phillips, Ph.D., and Irving Fisher, Ph.D., Professors in Yale University. (Harper & Bros., New York.)

It is attempted in this work to combine the notions of elementary geometry with those of algebra, so as to render the difficulties of the subject more easily surmountable for the beginner. Proportion is treated algebraically; and a square, although defined as an area, is at first treated as an algebraic square. In departing from the methods of Euclid the book gains something in simplicity, but loses much in clearness and style. The book, has, however, several conspicuous merits. The excellent engravings of solids, by the side of the corresponding skeleton diagrams, form a striking feature. Solid, surface, line, and point are properly defined in order. A straight line is defined in the only natural way, as that which gives the shortest path from point to point. The geometric axioms (three in number), though insufficient, are reduced to their simplest forms. A regular n-sided polygon is usefully, but incompletely, defined as a polygon with n-fold symmetry. On the other hand, in a book

which aims at the utmost scientific accuracy, it is strange to find the existence of the plane assumed without proof, and without embodying the assumption in an axiom. A ratio would appear, from its definition, to be always a whole number. Although a complete quadrilateral is defined in the modern way, no mention is made of a quadrangle. A serious error occurs near the end of the book, where the sole condition given for plane perspective is that the lines joining corresponding points meet in a common point.

SHORT NOTICES.

CLASSICS.

Tacitus, Histories, Book I., edited by G. A. Davies, M.A. (Cambridge University Press), is an excellent compilation from the works of the best Tacitean scholars, especially from Heräus and Dräger, of whose edition and grammar, respeetively, Mr. Davies has taken the fullest advantage. It follows as a matter of course that the grammatical notes are all that can be desired, and that the book is scholarly and complete. When Mr. Davies offers something of his own, his comments are well worthy of attention, as, for example, when he challenges the reading, *janua ac limine tenus domum cludit*, in chapter xxxvii. The historical notes are full and interesting.

Lucan, Book VII., by J. P. Postgate, Litt.D. (Cambridge University Press), would claim a more extended notice were it not for the fact that the editor's name is in itself a sufficient guarantee of the quality of the work. In the historical introduction a vivid picture of the battle of Pharsalia is painted; the notes are strong in the matter of illustration from Latin poetry; and the critical appendix is a valuable feature of this book, which deserves to become popular in schools and colleges.

Aeschylus, Prometheus Bound, by R. Haines, M.A. (Swan Sonnenschein), is an attractive-looking volume profusely illustrated from ancient art. Mr. Haines' work is altogether unlike the ordinary school book. "An attempt has been made," he says, "to quicken the dry bones of a dead language, and at the same time to supply in a handy and comprehensive volume all that is necessary for the understanding and appreciation of Aeschylus as a writer." In carrying out his scheme the editor has drawn on a great variety of sources for illustrative matter, descending with easy flight from Shakespeare to Dr. Kinns, in his "Moses and Geology," a work for which we have not an unbounded admiration. The grammatical notes are somewhat stinted, but then there is a useful appendix on Io's wanderings, and on the lyric metres, in the latter of which Mr. Haines might with advantage give a little more explanation. The book ought to prove interesting to a form.

Livy, Book XXII., Chapters i.–li., by J. Thompson, M.A., and F. G. Plaistowe, M.A. (Clive), is equipped with all that is needful to the candidates in a forthcoming examination, who cannot do better than master the subject as presented to them by these competent editors.

Mr. Shuckburgh, the indefatigable editor of countless school-books, has added to their number a volume of *Nepos and Cæsar* ("Pitt Press Series"). The former contains the sketches of Lysander, Alcibiades, Thrasybulus, Conon, Dion, Iphicrates, Chabrias, and the book thus covers a period of about sixty years, reckoned from the Athenian expedition to Sicily. In a useful introduction, the editor gives some account of the connexion of these heroes with Greek politics. The notes are such as we are accustomed to expect from Mr. Shuckburgh—short, clear, and to the point. He does not trespass far into the regions of syntax and higher scholarship.

The other volume contains the first twenty-nine chapters of Cæsar's "Commentaries" ("Pitt Press Series"). If the pupil's interest is not aroused by the manner in which the subject is here presented to him, it will not be Mr. Shuckburgh's fault, for he has done all that is possible to enliven the military details, that too frequently are rendered dull and unprofitable through incompetent editing. How many scholars retain through life a rooted dislike to the "Commentaries" and the "Anabasis"—a dislike implanted in them in their early boyhood, and one which, somehow, in spite of every effort made in later years, is not to be exterminated!

SCIENCE.

(1) *A New Course of Experimental Chemistry.* (Revised Edition.) By J. Castell-Evans. (Murby.) (2) *The Gases of the Atmosphere.* By W. Ramsay. (Macmillan.) (3) *Elementary Geology.* By G. S. Boulger. (Collins.) (4) *Hints on Elementary Physiology.* By Florence A. Haig-Brown. (Churchill.) (5) *Botany for Beginners.* By Henry Edmonds. (Longmans.) (6) *Physiography (Elementary Course).* By D. Forsyth, M.A., D.Sc. (W. &. R. Chambers.) (7) *Experimental Science.* By Arthur Hubble. (Chapman & Hall.)

(1) This is one of those thoroughly sensible books the discovery of which is the great joy of a reviewer's life. It is the work of a teacher of considerable experience, who, feeling discontented with the usual methods of teaching chemistry, has gradually developed a method of his own, which is thoroughly scientific. It is evident, however, that some previous scientific (or, at least, mathematical) training is pre-supposed, and that some modification of the course would be necessary if it were intended for the youngest pupils to whom chemistry is now taught. We mention this because the array of figures disclosed by a casual glance through the book may alarm some teachers unnecessarily; and there is an indefinable something about the type and general look of the pages that conveys an unsatisfactory impression of dryness. But the book is not one for fireside reading; it is strictly a guide to experimental work, and the calculations that follow from that work. We are glad to note the adoption of the American plan of asking questions, instead of anticipating them by answers. We cordially recommend this book to all teachers of chemistry.

(2) Professor Ramsay has endeavoured to tell, in clear and popular language, the story of the gradual growth of scientific knowledge of the nature of our atmosphere, from the time of Robert Boyle to the present day. The gradual realization that there are many kinds of "air," and the struggles by which true notions of the nature of combustion forced their way through the entangling meshes of the phlogiston theory, are told largely in quotations from the original writings of the pioneers of chemistry; and the latter part of the book tells us the story of argon, discovered by Lord Rayleigh and the author within the last few years. While Professor Ramsay does not show any special aptitude for clear popular exposition, the subject-matter of the book is sufficiently interesting to make the book worth reading by any one who has an elementary knowledge of chemistry—that is, almost every educated person nowadays. What the elementary science teacher will say when he finds Professor Ramsay expressing a doubt as to "whether mass or weight are such invariable properties of matter as have (*sic*) been generally taken for granted" we will not venture to surmise. The value of the book is increased by a fine series of portraits of Stephen Hales, Boyle, Mayow, Priestley, Lavoisier, Cavendish, and others, though there is no statement as to the originals from which they were reproduced. A curious mistake occurs on page 164, where the date of the Oxford meeting of the British Association, at which the discovery of argon was announced, is given as 1895, instead of 1894.

(3) Mr. Boulger's work does not show special brilliancy of treatment, but it is free from the mistakes that are common in similar books. We must note, however, that no one nowadays places the Lower Llandovery in the Ordovician—whatever name they may call that system—as a reference to the last edition of Geikie will show. We fancy that the revised Science and Art Department syllabus does not require as much acquaintance with generic and specific names as it once did; and it would be kinder to elementary students to give them only group names as a rule. If figs. 58 and 116, for example, were respectively labelled "Trilobite" and "Irregular Echinoid," they might pass: they are very rough representations of the species whose names they bear. Some of the drawings of rocks (that of obsidian in particular) are quite spoiled by their square-cut margins. In spite of these defects, the book will serve its purpose very well.

(4) This apparently consists of the notes taken by the author at lectures on physiology and hygiene delivered by the medical staff of St. Thomas's Hospital. We fail to see the use of publishing them; the whole value of such notes lies in the preparing of them. To the compiler these notes must suggest and recall much beyond their apparent contents, but to others who receive them ready-prepared they are of very little use; if they are regarded as a permissible substitute for careful attention to lectures, they become even harmful.

(5) Mr. Edmonds opens well, but his latter pages are rather disappointing. The treatment of stem, root, and leaves is sensible, but when we come to flowers and fruit there is a tendency towards pigeon-holing, instead of a rational comparison of difference of structure. Thus, in describing fruits, no attempt is made to connect the structure of the fruit with that of the flower pistil; and the adoption of the favourite but very artificial grouping of fruits into "false" and "true" results in separating the apple from the hip, and the strawberry from the raspberry and the buttercup fruit, whereas, in both cases, a useful comparison might be made. The author speaks of schizocarps as "dehiscing," calls the pistil of the pea "apocarpous," and seems to imply (page 107) that when mustard and cress are grown on wet flannel they cannot get any food beyond what was in the seed!

(6) This is a typical South Kensington text-book as to arrangement—starting with abstract notions about "matter" and the like; describing the earth's orbit before mentioning the ecliptic, and so forth. It is above the average book in its get-up and illustrations. The figures of mica-schist and gneiss, however, might with advantage have been left out. The descriptions of igneous and metamorphic rocks indicate a very imperfect acquaintance with them; but we have little fault to find with the matter of other parts of the book.

(7) Another welcome addition to the list of courses in elementary practical physical work, for which recent reforms have created a demand. A year ago we should have devoted much more space to such a book, but now they are becoming common. In this one we have five parts—Size and Weight; Density and Liquid Pressure; Air Pressure; Heat; and Mechanical Principles. Some one hundred and thirty-six experiments, mostly involving measurement, are described very clearly, and with the help of neat outline figures. The exact form of the experi-

ments is in many cases original—a fact which is, in itself, a strong recommendation.

FRENCH.

(1) *French Plays for Schools.* By Mrs. J. G. Frazer. (Macmillan.) (2) *Scenes of Familiar Life.* By Mrs. J. G. Frazer. (Macmillan.) (3) *Quand j'étais petit. Histoire d'un enfant racontée par un homme.* Par Lucien Biart. Edited by James Boïelle, B.A. (Cambridge University Press.) (4) *Madame Lambelle.* Par Gustave Toudouze. Edited by James Boïelle, B.A. (Whittaker & Co.) (5) *Vingt Ans après.* Par A. Dumas. Edited by Francis Tarver, M.A. (Edward Arnold.) (6) *French Whys and Wherefores.* Edited by Leo Melliet, B.A., LL.B. (Hachette & Co.)

(1) A very pleasant trio of French plays, readable throughout, entertaining and instructive in their neat, unconventional, and correct setting. Not that they would readily pass muster on the stage of the Comédie Française; such is not Mrs. Frazer's ambition. But they are in every way acceptable in the school-room, as well as in the drawing-room, and they supply, indeed, as is claimed for them, a much and long felt want. The notes are all that can be desired. The fact that these little plays have been acted by the students of the Cambridge Training College testifies as to their suitability for purposes of education; and we have, for our part, no hesitation in adding our hearty recommendation of "French Plays for Schools" to the *testamur* of Miss E. P. Hughes.

(2) Though different in conception, the aim of *Scenes of Familiar Life* is the same as, or, at least, in every way akin to that of, "French Plays for Schools," to supply teachers of the French language with simple, yet varied, materials for conversation classes. Here, also, success has crowned Mrs. Frazer's efforts, and the volume before us is instructive and amusing to the full. The style is in every sense colloquial, without being in any part trivial or incorrect. In twenty-nine lively scenes we are taken lightly through the whole range of every-day practical French conversation. It goes without saying that within the limits of the book this range may be still further increased. A helpful vocabulary adds to the usefulness of the contents. We can fully recommend this volume to teachers who wish to make French classes a serious preparation for pleasant trips on the Continent, and a sound mental gymnastic for the quick attainment of facility of speech in the Gallic idiom.

(3) The first thing we looked for was a few words concerning M. Lucien Biart, his life, his claims to be classed among the literary men of this century. And we looked in vain. Yet Lucien Biart is not *le premier venu*, and his *bagage littéraire* is of sufficient bulk and interest to render its possessor worthy of a notice, even a short one. *Quand j'étais petit* is, in itself, an excellent text-book. The story, the writer's own, is full of interest, racily told, and well adapted, in every way, as a class book or reader. The notes are fair, free of glaring errors, but at times somewhat prolix and stagey. The vocabulary is helpful.

(4) *Madame Lambelle* is one of the best-appreciated works of Toudouze, and the further fact that it was *couronné* by the French Academy makes it a grateful addition to the large number of good French Readers now at the disposal of English students. The notes are good throughout. There is no vocabulary.

(5) *Vingt Ans après!* With what pleasure we once read these stirring pages, and how entrancing they are still to us! The younger generation of students will no doubt share in the same emotions, and feel the same thrills, for Dumas' books can never grow old or antiquated. This is a fit sequel to *Les Trois Mousquetaires.* It would be idle to dilate upon the merits of the book as a work of fiction. Suffice it to say that it will afford the student ample opportunities for increasing his already acquired knowledge, and yield a plentiful harvest of words and phrases. The notes are fairly full and useful.

(6) This is the first number of a magazine of notes and queries which claims to be the indispensable *vade mecum* of the French scholar and public-school teacher. We hail with pleasure the appearance of this venture, and wish it all the success which it certainly deserves. Very often one is confronted with difficulties which neither dictionaries nor reference books can help to solve. The aim of *French Whys and Wherefores* is to afford a field of inquiry where such difficulties may be put forward, fully discussed, and satisfactorily threshed out. Queries are invited in all branches of French study, and there is little doubt that French teachers and teachers of French, students as well as scholars, will eagerly avail themselves of the opportunity offered of altering a preconceived opinion, or making sure of a yet doubtful conception. The number before us is fully up to the standard required in such a publication. It appears monthly from October to May. Perhaps it were well if advertisements were relegated to the outside sheets and not mixed with the text in the middle of the magazine.

MATHEMATICS.

(1) *The Metric System.* By Professor W. U. Wagstaff, M.A. (Whittaker & Co.) (2) *Solid Geometry Questions.* By J. W. Marriott. (Coward, Blackburn.) (3) *The Day-by-day Arithmetic.* By T. B. Ellery, F.R.G.S. (Jarrold & Sons.)

(1) Professor Wagstaff's little book, to quote from the preface, is a reprint of four lectures delivered at Gresham College in November, 1895, its object being to give popular information about the Metric System, so that more interest may be excited in it, and the question definitely settled whether we are to have it in England or not. The book gives a very fair summary of the arguments both for and against the Metric System, the net result being a great preponderance of evidence in favour of its gradual and compulsory adoption. One point considered is the probable effect that the adoption of the Metric System would have in the teaching of arithmetic in schools. We do not agree with the author that it would result in any great saving of time, for vulgar fractions would still have to be taught, though, possibly, not to the same extent as is now necessary. The author gravely suggests that the time thus saved could be deducted from the expense of education, and enable the rates to be reduced.

(2) Mr. Marriott's *Questions*, which have reached a third edition, have proved very useful to candidates in Subject I. of the Science and Art Department. The elementary and advanced questions are in two different parts, and include all the questions that have been set during the last ten years, besides several others by the author.

(3) Mr. Ellery's *Arithmetic* consists of a very complete and carefully collected set of questions in arithmetic, published in seven parts, the prices of which range from three half-pence to threepence. The whole has been prepared to meet the exact requirements of the latest Code. The answers are published separately in seven parts corresponding to the questions.

MISCELLANEOUS.

"Bell's Cathedral Series."—(1) *Canterbury, the Cathedral and City,* (2) *Salisbury, the Cathedral and City.* Edited by Gleeson White. (Bell & Sons.)

The idea of the publishers in planning this welcome series of handy illustrated monographs on the English Cathedrals appears to us to be well founded and assured of success. Nearly all the works on the same subject, excluding local handbooks on particular cathedrals, are costly or scarce, and certainly there is no comprehensive series which combines, as these two initial volumes combine, excellence of illustration with a very modest price. To judge from the manner in which Canterbury and Salisbury have been treated, the "Cathedral Series" is likely to provide visitors and residents in cathedral cities with precisely what they need—a history of the see and of the fabric, a critical and descriptive survey of the buildings, a brief account of the bishops and other notable men connected with the diocese, and both modern and ancient illustrations for the purpose of comparison. A word of recognition must be given to the strikingly artistic cover which Mr. Gleeson White has designed for this series.

The Higher Criticism of the Old Testament.—By the Rev. Alexander Israel McCaul, M.A., Rector of St. Magnus, and Lecturer in King's College, London. (Published by the Author.)

This is a vigorous defence of the canon of the Old Testament, not to say of its plenary inspiration, against the "Higher Criticism." It is a distinctly able pamphlet of 66 pages; but the treatment is too controversial for extended notice here. We merely observe, as a fact not without relevance to certain large educational problems, that "copies of this pamphlet may be obtained from the Secretary, King's College, Strand, London, W.C."

Elements of Music, Harmony and Counterpoint, Rhythm, Analysis, and Musical Form, with Exercises. By T. H. Bertenshaw, B.A., B.Mus. (Longmans.)

Mr. Bertenshaw, of the City of London School, has written, under the alternative title of "Longmans' Music Course," a very sound and practical treatise on Harmony and Counterpoint, &c., in an octavo volume of four hundred pages. The workmanship is in the best sense academic, and a better introduction to the theory of music, or one more classical in conception and execution, could not be desired.

Scarlet and Blue, or Songs for Soldiers and Sailors. Edited by John Farmer. (Cassell & Co.)

We have here a very comprehensive collection of more or less familiar songs for soldiers and sailors and others—surely in the main for others—from "God save the Queen" to "Tom Bowling" and "The Death of Nelson." The setting of the old airs is remarkably simple, and suited to the least exacting tastes in the matter of harmony. The selection of these ditties, over a hundred in number, has been very happy, and the book is certainly one that should be in the hands of every singer of English songs.

Education without Injury, or How to strengthen Memory. (Sambrook, Lincoln.)

Mr. Sambrook's "International Assimilative System" is professedly developed from the labours of Grey, Middleton, Stokes, Fairchild, Loisette, and others, though with the important distinction that he substitutes for the arbitrary letters of the *memoria technica* syllables or words approximating in sound to the ten figures of the decimal notation. The plan is no less artificial and illogical than the older one, but, at any rate, it does much of what it professes to do—it lends a crutch to limping memories. Other forms of "assimilation" are explained in Mr. Sambrook's little volume, of which the least that can be said is that it is ingenious and amusing.

Blackboard Drawing. By M. Swannell. (Macmillan.)

This is a courageous, conscientious, and in many ways helpful attempt to supply the deficiencies of mothers and teachers who have had no systematic training in drawing. It is a quarto of twenty-six plates, illustrations in white on a black ground, with as many pages of directions and hints, thoroughly practical in their character. Unquestionably the weak or timid hand will be greatly assisted by those progressive aids. We will not criticise the actual drawing in detail, nor even the methods adopted, which do not pretend to be anything more than a *faute de mieux.* But we can quite believe that an intelligent teacher, without any special preparation in draughtsmanship, might turn this book to good account.

School Method: Notes and Hints. By F. J. Gladman, B.A., B.Sc. With Revisions and Additions by J. W. Jarvis. (Jarrold & Sons.)

"To meet the latest demands of the Education Department," Mr. Jarvis has revised the popular and very suggestive work of Mr. Gladman, which is now in its hundred and fifteenth thousand. Its value will be realised mainly by the elementary teacher, or rather by the teacher of elementary subjects; but it contains a great deal of sound advice and counsel, which will be found to be of very general application. We have always entertained a high opinion of the utility and straightforward common sense of Mr. Gladman's book, and are not at all surprised to see how widely it is appreciated.

We have received the following publications:—

Report of the Minister of Public Instruction in Victoria, for the Year 1895–6 (Melbourne); *Fifth Annual Report of the West Riding Technical Instruction Committee* (Wakefield).

The Building World, an Illustrated Weekly Trade Journal, Vol. II., April to October, 1896 (Cassell).

Miguel de Cervantes' Adventure of the Wooden Horse, and Sancho Panza in Barataria, by Clovis Bevenot, M.A. (Clarendon Press)—with life, introduction, and notes.

The Clear School Atlas (Collins, Sons, & Co.)—an atlas of the world, an illustrated English dictionary, and a picture-book all in one, comprising forty maps and sixty-four photographic views: a somewhat forced association of utilities and attractions, but still a very noteworthy *multum in parvo* for eighteenpence.

Five Years' Course of Bible and Prayer-Book Teaching (Church of England Sunday School Institute)—fourth year.

A Year's Teaching for Infant Sunday Schools. By Mrs. J. F. Morten (same publishers).

Graphic Stories for Boys and Girls (Collins)—selected from the "Graphic Readers," with thirty-two illustrations.

Lean's Royal Navy List, January, 1897 (Witherby & Co.).

Short Narratives for Composition (W. & R. Chambers)—a third series, for reading and reproduction.

The Little Colonel: A True Story, by Annie Fellows-Johnston (Jarrold & Sons)—calculated to teach the English child a stock of American colloquialisms.

The Art and Craft of Coach-Building. By John Philipson (Bell & Sons)—a new volume of the "Technological Handbooks" series, edited by Sir H. Trueman Wood, thoroughly practical and technical.

McDougall's Practical Geometry. (Plane.) Standards V. and VI. (McDougall)—clear figures, constructions, and exercises.

LITERARY GOSSIP.

The Clarendon Press has now made arrangements for a first series of its promised "Oxford Classical Texts," for use in the Universities, colleges, and schools. Æschylus will be edited by Mr. Arthur Sidgwick, Apollonius Rhodius by Mr. R. C. Seaton, Demosthenes by Professor Butcher, Euripides by Professor G. G. Murray, Aristophanes by Mr. Geldart and Mr. F. W. Hall, Homer by the Provost of Oriel and Mr. T. W. Allen, Pindar by Professor Hardie, Cicero's Orations by Mr. Albert Clark, Mr. S. G. Owen, and Mr. W. Y. Faussett; Cicero's rhetorical works by Professor Wilkins, Juvenal and Persius by Mr. S. G. Owen, Lucretius by Mr. Cyril Bailey, Tacitus by Mr. Furneaux, and Velleius Paterculus by Professor Robinson Ellis.

Dr. J. A. H. Murray, of Oxford, writes to a daily contemporary, in regard to the progress which is being made by the New English Dictionary:—"People ignorant of the nature of the work sometimes give a British grumble at what they in their insular ignorance consider its slow progress. Foreign scholars, who know that Grimm's German Dictionary has been in progress since before 1848, and that the great Dutch Dictionary has been going on some few years later, and that for the great Swedish Dictionary recently commenced, on the model of our dictionary, a period of forty years has been taken, consider one of the most astonishing features of the new English Dictionary to be the rapidity with which it is produced."

The death of Sir Isaac Pitman removes the oldest and most assiduous of "spelling reformers," and the pioneer of one of the most widely practised systems of shorthand writing.

Subscriptions or guarantees in connection with the forthcoming *Oireachtas* (an assembly after the manner of the Welsh Eisteddfod, at which money prizes will be offered for the best recitations, essays, poems, and songs in Irish) are asked for by the Gaelic League.

A fund is being raised in the City of London in order to add to the collection of philological works in the Guildhall Library. It was originally intended to purchase part of the library of the late Prince Lucien Buonaparte; but, another purchaser having secured that library, many of the subscribers have transferred their donations to the fund above mentioned.

To his numerous contributions to the study of Early and Middle English, Dr. Sweet has now added a "Student's Dictionary of Anglo-Saxon." It is necessarily based, to some extent, on Bosworth-Toller's "Anglo-Saxon Dictionary," which is now approaching completion. The head-words are given in their Early West-Saxon spellings, with such restrictions and suggestions as are suggested by practical considerations.

The Clarendon Press is publishing in two parts, with eight or nine maps, the fourth volume of Mr. C. P. Lucas's "Historical Geography of the British Colonies." The volume will deal with South and East Africa.

CORRESPONDENCE.

APPEAL TO MODERN-LANGUAGE MASTERS.

To the Editor of the Educational Times.

Dear Sir,—Will you kindly allow me a little space to appeal to all teachers of modern languages in London and neighbourhood to combine for the purpose of cultivating a practical acquaintance with the languages they are engaged in teaching? If we are to teach French and German as living languages, as is now universally demanded, it is a *sine qua non* that we ourselves should be proficient in the spoken language. Fluency of speech, and, what is more important, a correct pronunciation, can only be acquired and retained through intercourse with educated foreigners, much as the study of phonetics will do in this respect. It is therefore proposed to hold periodical meetings, weekly, if possible, at some central place in London which would offer some facilities for accustoming the ear and the vocal organs to the ready perception and production of the foreign sounds. In the first instance arrangements will be made for the hearing of passages from French and German literature read by natives, and also of lectures in the foreign tongue on literary subjects of general interest, but it is hoped that it will be possible to arrange, in addition, conversational circles under the direction of a French or German gentleman. All teachers who will fall in with this scheme are kindly requested to notify me their intention of attending these conferences. A preliminary meeting will be arranged at an early date, invitations to which will be sent to all teachers whose names I shall have received.—I am, Sir, yours faithfully, W. Ahrens.

3 Clareville Grove, South Kensington, S.W.
January 21, 1897.

ADJOURNED MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

An adjourned meeting of the Council was held at the College on January 23. Present—Mr. J. Stewart, Vice-President, in the Chair; Miss Bailey, Rev. J. O. Bevan, Mr. Brown, Dr. Dillon, Mr. Eve, Mr. Harris, Mr. Pinches, and Mr. Sergeant.

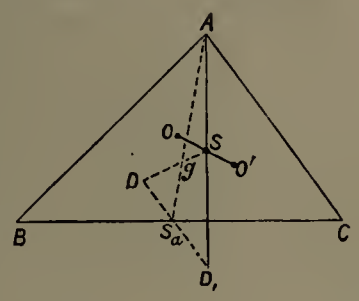
The Secretary reported that at the recent examination of teachers for Diplomas, out of 190 candidates who presented themselves, the following were entitled to Diplomas:—*Fellowship:* F. H. Hayward. *Licentiateship:* W. C. Brown, W. H. Cock, D. Ferguson, W. H. Hill, E. C. Keey, A. J. King, T. H. Penson, R. C. Pollock, A. M. Saville, Miss J. B. Webster. *Associateship:* Miss E. M. Allen, J. A. Barker, A. Barnes, Miss H. M. Bath, J. M. Batty, W. T. Biggadyke, Miss A. M. Bing, A. Brown, H. B. Brown, J. W. Chaplin, W. S. Chivers, Miss A. B. Collingwood, W. H. Collins, W. E. Cooke, A. J. Coy, E. Day, W. Deacon, F. Dean, Miss M. E. Everitt, W. H. Foxall, H. M. Fraser, Miss H. M. Furber, F. C. Gillespie, T. G. Goodman, J. Griffith, T. J. Harford, J. Higginbottom, M. Hill, N. Hillyer, M. Homer, A. E. Jobbins, G. W. Kent, J. J. Lake, Miss L. M. Larcombe, E. W. S. May, Miss A. E. Milnes, W. Milroy, W. R. Morris, R. H. Nicol, Miss A. K. Palmer, W. B. Pates, C. Pearce, Miss L. F. Ramsey, H. Roberts, J. J. Shallcross, Miss B. E. Shilson, Miss W. M. Smythe, O. Sunderland, R. F. Thomas, J. Thompson, J. B. Tomlinson, Miss E. J. Warren, J. J. Willetts, Miss A. M. Young.

The Diplomas were granted accordingly. The Prize of £10 for Theory and Practice of Education was awarded to Mr. F. H. Hayward, and the Doreck Scholarship of £20 was awarded to Mr. E. G. Newlyn.

MATHEMATICS.

13142. (Professor Schwatt.)—Prove that, if through the centre of perspective D of a given triangle ABC and its Brocard-triangle A′B′C′ be drawn straight lines so as to pass through S_a, S_b, S_c (S_a, S_b, S_c are the middle points of the sides BC, AC, and AB of the triangle ABC), and if S_aD_1 is made equal to DS_a, S_bD_2 equal to DS_b, S_cD_3 equal to DS_c, then (1) the figures $D_1O'AO$, $D_2O'BO$, and $D_3O'CO$ are parallelograms (O and O′ are Brocard-points), (2) the triangles $D_1D_2D_3$ and ABC are equal, and (3) D_1A, D_2B, and D_3C intersect in S (S is the middle point of OO′).

Solution by Professors A. Droz-Farny, Gopalachanar, *and others.*



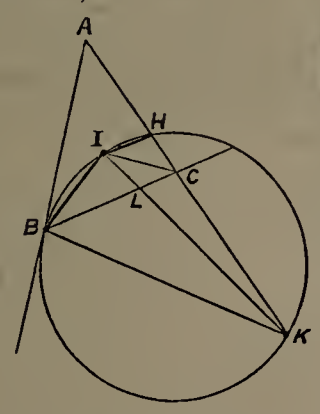
Si dans le plan d'un triangle de référenco ABC, trois points P, Q, R ont respectivement pour coordonnées bary-centriques, α, β, γ; β, γ, α; γ, α, β, on sait que le triangle PQR a même centre de gravité que ABC. Or les coordonnées bary-centriques de D sont $1/a^2$, $1/b^2$, $1/c^2$; celles de O, $1/b^2$, $1/c^2$, $1/a^2$; celles de O′, $1/c^2$, $1/a^2$, $1/b^2$. Le triangle DOO′ a donc même centre de gravité g que ABC. Soit S le milieu de OO′. Dans le triangle DgS_a, on a

$$\frac{Sg}{SD}\cdot\frac{AS_a}{Ag}\cdot\frac{D_1D}{D_1S_a} = \tfrac{1}{3}\cdot\tfrac{3}{2}\cdot\tfrac{2}{1} = 1.$$

Donc AD_1 passe par le point milieu S de OO′ et elle est divisée en ce point en parties égales; il en est de même des deux droites BD_2 et CD_3. Comme OS = O′S et AS = SD_1, la figure D_1OAO' est un parallélogramme, et enfin les points D_1, D_2, D_3 étant les symétriques de A, B, et C par rapport un point S, le triangle $D_1D_2D_3$ est égal au triangle ABC.

13173. (W. J. Dobbs, M.A.)—A circle drawn touching AB at B and and passing through I the in-centre of the triangle ABC, meets AC in H and K. Prove that IC bisects the angle HIK.

Solution by R. F. Davis, M.A.; E. W. Todd; *and others.*



Let IK intersect BC in L. Then

$$\angle IBL = IBA = IKB;$$

therefore the triangles IBL, IKB are similar, and

$$\angle ILB = IBK = IHA.$$

Taking $\frac{1}{2}$C from each angle,

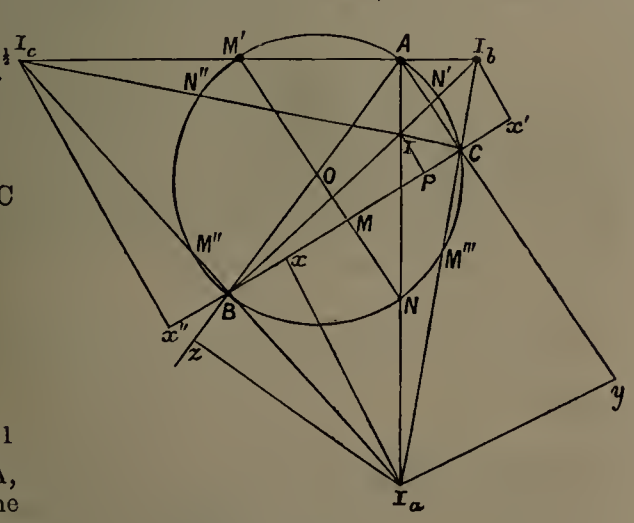
$$\angle CIL = CIH.$$

13302. (R. W. D. Christie.)—Prove that the tangents and cotangents of the half angles of any triangle are the roots of the equations

$$sx^3-(4R+r)x^2+sx-r = 0, \quad rx^3-sx^2+(4R+r)x-s = 0,$$

where the letters have the usual meanings.

Solution by W. E. Jeffares, B.A.; H. W. Curjel, M.A.; *and others.*



$$\tan\tfrac{1}{2}A\tan\tfrac{1}{2}B\tan\tfrac{1}{2}C$$
$$= \left\{\frac{(s-a)(s-b)(s-c)}{s^3}\right\}^{\frac{1}{2}}$$
$$= \frac{S}{s^2} = \frac{r}{s};$$
$$\tan\tfrac{1}{2}A+\tan\tfrac{1}{2}B+\tan\tfrac{1}{2}C$$
$$= \frac{bc+ca+ab-s^2}{S}$$
$$= \frac{r+4R}{s};$$
$$\tan\tfrac{1}{2}B\tan\tfrac{1}{2}C$$
$$+\tan\tfrac{1}{2}C\tan\tfrac{1}{2}A$$
$$+\tan\tfrac{1}{2}A\tan\tfrac{1}{2}B = 1$$

Therefore $\tan\frac{1}{2}A$, $\tan\frac{1}{2}B$, $\tan\frac{1}{2}C$ are the roots of

$$sx^3-(4R+r)x^2+sx-r = 0,$$

and $\cot\frac{1}{2}A$, $\cot\frac{1}{2}B$, $\cot\frac{1}{2}C$ of

$$rx^3-sx^2+(4R+r)x-s = 0.$$

[The rest in Volume.]

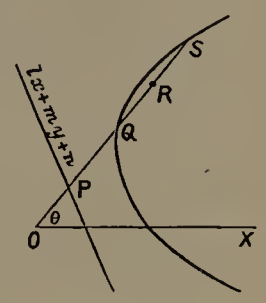
13244. (P. W. Flood.)—Given the hypotenuse of a right-angled triangle, to construct it, when the rectangle under the segments of one of the other sides made by the bisector of the angle opposite is equal to a given square or a maximum.

Solution by D. Biddle, *the* Proposer, *and others.*

Let the hypotenuse equal unity, and the side which forms with it the bisected angle equal x. Then the other side $= (1-x^2)^{\frac{1}{2}}$, and the segments of it are $x(1-x^2)^{\frac{1}{2}}/(1+x)$ and $(1-x^2)^{\frac{1}{2}}/(1+x)$, their product being $x(1-x)/(1+x)$. If this $= a^2$, then $x = \frac{1}{2}\{1-a^2\pm(1-6a^2+a^4)^{\frac{1}{2}}\}$. In order that $(1-6a^2+a^4)^{\frac{1}{2}}$ may be real, the maximum value of a^2 is $3-2\sqrt{2}$, in which case $x = \sqrt{2}-1$, and this same value is arrived at by taking the differential coefficient of $x(1-x)/(1+x)$, namely, $(1-2x-x^2)/(1+x)^2 = 0$. With these values before us, the construction is extremely simple in both cases if a semicircle be described upon the hypotenuse as base.

13246. (Rev. T. Wiggins, S.J.)—A movable line through the origin meets the fixed straight line $lx+my+n = 0$ at P, and the fixed conic $ax^2+2hxy+by^2+2gx+2fy+c = 0$ at Q and S. R is taken so that P and R divide QS harmonically. Prove that the locus of R may be written in the form $n(ax^2+2hxy+by^2+2gx+2fy+c) = (lx+my+n)(gx+fy+c)$.

Solution by W. E. Jeffares, B.A.; W. E. Heal, M.A.; *and others.*



Let O be the origin, and $y = \tan\theta . x$ the transversal through O. The vectors OP, OQ, OR, OS are found from the equations

$$(a\cos^2\theta+2h\sin\theta\cos\theta+b\sin^2\theta)r^2$$
$$+2(g\cos\theta+f\sin\theta)r+c = 0,$$
$$(l\cos\theta+m\sin\theta)\,OP+n = 0,$$

and

$$\frac{1}{PQ}+\frac{1}{PS} = \frac{2}{PR}$$

(as QS is cut harmonically in P and R),

$$(PQ+PS)\,PR = 2PQ\times PS,$$
$$(OQ+OS-2OP)(OR-OP) = 2(OS-OP)(OQ-OP),$$

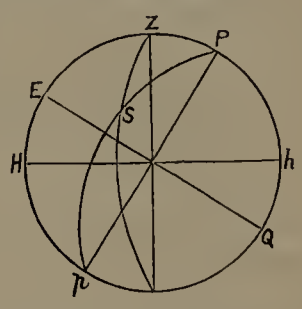
or

$$(OQ+OS-2OP)\,OR = 2OS\times OQ-(OS+OQ)\,OP.$$

[The rest in Volume.]

13210. (F. A. L. Kitchin, B.A.)—Two stars whose elements are unknown rise together, and bear S. $\alpha°$ W. at the same moment. Show that the latitude (l) of the place is given by $\tan l = \sin\alpha$.

Solution by H. W. Curjel, M.A.; C. Bickerdike; *and others.*



Let P be the pole. Draw great circle PN perpendicular to the horizon QN, and let small circle with pole P and radius $\frac{1}{2}\pi-l$ cut QN in Q. Then

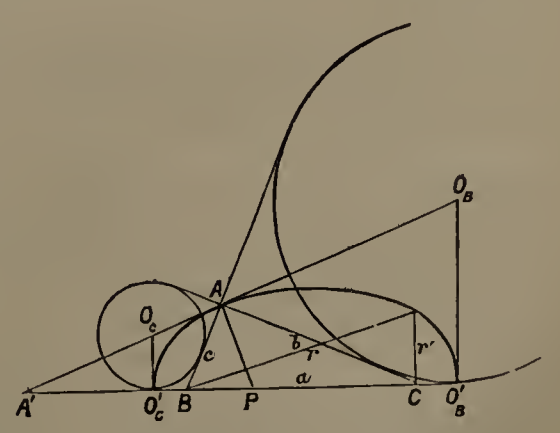
$$\angle PQN = \alpha$$

and

$$PN = l;$$
$$\therefore\ \frac{\sin(\frac{1}{2}\pi-l)}{\sin\frac{1}{2}l} = \frac{\sin l}{\sin\alpha};$$
$$\therefore\ \tan l = \sin\alpha.$$

13318. (Professor Barisien.)—Dans un triangle ABC on considère les centres O_B et O_C des cercles ex-inscrits dans les angles B et C et on projette ces centres en O'_B et O'_C sur le côté BC. La droite O_CO_B rencontre BC en A′. Montrer que (1) les points A et A′ sont conjugués harmoniques des points O_C et O_B; et (2) l'ellipse ayant pour sommets du grand axe les points O'_C et O'_B et passant par A jouit de la propriété d'être tangente à la droite O_CO_B et d'avoir pour foyers les points B et C.

Solution by T. Savage, M.A.; W. E. Jeffares, B.A.; *and others.*



A and A′ are centres of similitude of the ex-circles, and therefore harmonic conjugates of their centres O_C and O_B.

Again

$$O'_CO'_B = O'_CB+BC+CO'_B,$$
$$O'_CB = CO'_B = s-a,$$

and

$$BC = a;$$
$$\therefore\ O'_CO'_B = b+c.$$

Hence the ellipse

$$r+r' = O'_CO'_B$$

passes through A. The normal AP bisects $\angle BAC$, and is perpendicular to O_CO_B, since

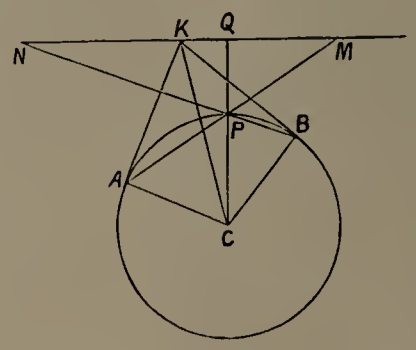
$$\angle O_CAB = \angle O_BAC.$$

Therefore O_CO_B is a tangent, B and C being foci.

13177. (M. Brierley.)—From a given point draw two tangents to

a given circle and join the points of contact. From the centre of the circle draw any radius (produced if necesary), perpendicular to which draw a line from the given point, and produce it indefinitely. If then lines be drawn from the points of contact of the tangents to intersect in the extremity of the radius before drawn, they will intercept on the indefinite line a portion of it of a constant magnitude.

Solution by Professors RADHAKRISHNAN, MUKHOPADHYAY, *and others.*



Let $\angle ACB = 2L$, a constant,

and $\angle KCP = \theta$, a variable;

$\therefore$ $\angle APC = 90 - \frac{1}{2}(L+\theta)$,

and $\angle BPC = 90 - \frac{1}{2}(L-\theta)$.

Also $KC \cos L =$ the radius r;

$\therefore$ $PQ = CQ - CP = r \sec L \cos\theta - r$.

The area of the triangle MPN $(= \frac{1}{2}MN \times PQ)$

$= \frac{1}{2}MP \,.\, NP \sin \angle MPN$,

i.e, $\propto MP \,.\, NP$,

i.e, $\propto PQ^2 \sec \angle MPQ \sec \angle NPQ$,

i.e., $\propto PQ^2/(\cos \angle APC \cos \angle BPC)$;

$\therefore$ $PQ/MN \propto \cos \angle APC \cos \angle BPC$, *i.e.*, $\propto (\cos\theta - \cos L)$.

But $PQ = (r/\cos L)(\cos\theta - \cos L)$, *i.e.*, $\propto (\cos\theta - \cos L)$.

Therefore MN is constant. [For another solution, see Vol. LXVI., p. 59.]

13331. (Rev. W. A. WHITWORTH, M.A.)—If n chords be drawn at random in a circle, show that the chances of

$\frac{1}{2}n(n-1)$ intersections $= N$, $\frac{1}{2}n(n-1)-1$ intersections $= nN$,

no intersections $= 2^n \div (n+1)!$, and one $= 2^n n(n-1) \div (n+2)!$;

where $N = 2^n n! / (2n)! = 1 \div$ product of the first n odd numbers.

Solution by H. FORTEY.

1. Preliminary, and notation. A random chord in a circle is the join of any two random points on the circumference, and n random chords result from joining in any way in pairs $2n$ random points. Also, the points being numbered in succession 1, 2, ..., $2n$ as we go round the circle, the number of cuts of the n chords depends in no degree on the absolute position of the random points, but entirely on their pairs of points (as indicated by their numbers) which constitute the chords. A little consideration will show that $2n$ points can be joined by n chords in $\psi(n)$ ways, where $\psi(n) = 1 \,.\, 3 \,.\, 5 \ldots (m-1) = \dfrac{(2n)!}{2^n \,.\, n!}$.

Let n_x denote the number of ways in which $2n$ points can be joined by n chords making x cuts, and let $p_x(n)$ be the chance that the chords are so drawn. Then $p_x(n) = n_x \div \psi(n)$.

[The rest in Volume.]

13287. (EDITOR.)—Prove that, in any triangle, we have, using the ordinary notation, $(r_a - r)(r_b - r)(r_c - r) = 4Rr^2$.

Solution by Rev. J. CULLEN, B.A.; Rev. T. WIGGINS, B.A.; *and others.*

The left-hand side may be written thus,

$$[S/(s-a) - S/s][S/(s-b) - S/s][S/(s-c) - S/s]$$
$$= Sabc/s^2 = 4RS^2/s^2 = 4Rr^2.$$

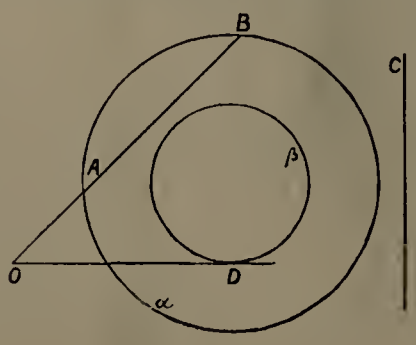
13283. (Professor ALEY.)—Telegraph poles are a yards apart; for how many minutes must one count poles in order that the number of poles counted may be equal to the number of miles per hour that the train is running?

Solution by D. BIDDLE, Rev. R. H. STEWART, *and others.*

Let $x =$ the required number of minutes, $y =$ the number of posts, and $a =$ one-mth of a mile. Then 1760 yards $=$ distance in $60/y$ minutes, $1760y/m =$ distance in x minutes; therefore $x = 60/m = 3a/88$.

13272. (P. W. FLOOD.)—Given two chords of a circle, the angle at which they meet, and one of the external segments, describe the circle.

Solution by W. E. JEFFARES, B.A.; H. W. CURJEL, M.A.; *and others.*



Let AB be one given chord, OA being the corresponding external segment, and let C be the other chord.

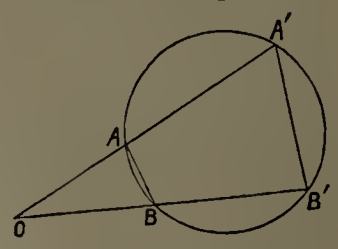
Draw through A, B a circle α with diameter not less than C, and draw a concentric circle β such that chord of α touching $\beta = C$.

From O draw tangent OD to B.

Then OD = distance of middle point of required chord (= C) from O. This determines the circle.

13230. (Professor CAZAMIAN.)—Soient O le centre d'inversion, A et B deux points d'une figure, A′ et B′ les points correspondants de la figure inverse. Démontrer que la médiane et la symédiane du triangle AOB, issues de O, sont respectivement symédiane et médiane du triangle A′OB′.

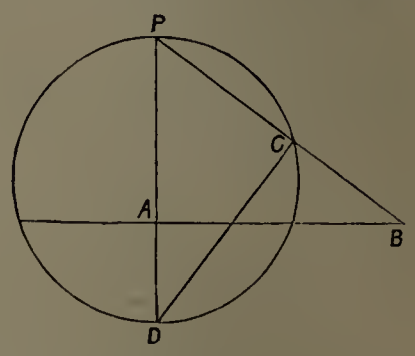
Solution by H. W. CURJEL, M.A.; W. E. JEFFARES, B.A.; *and others.*



A, B, A′, B′ are concyclic; therefore triangles OAB, OB′A′ are equiangular, and hence the medians of triangles OAB, OB′A′ through O coincide with the symmedians of triangles OB′A′, OAB through O, respectively.

13248. (M. BRIERLEY.)—A straight line AB and a point P are given in position; through P another line is drawn to intersect AB in B, and PB is so divided in C that PC, PB is given in magnitude and a constant quantity; required the locus of C.

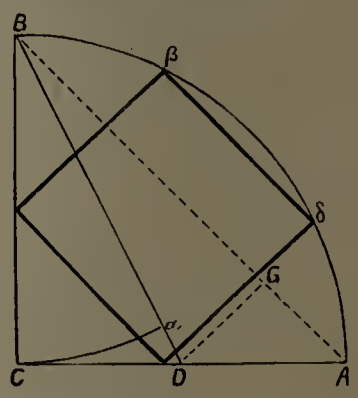
Solution by W. E. JEFFARES, B.A.; Prof. RADHAKRISHNAN; *and others.*



From P let fall the perpendicular PA on LL′, and produce PA to D, till $PD \times PA =$ the given constant quantity. On PD as diameter, describe a circle; this circle will be the locus of C. For draw any line PB. Join DC. $\angle BCD$ is right, and $\angle BAD$ is also right. Therefore the points A, B, C, D are concyclic, and the rects. $PA \times PD = PB \times PC$. Therefore the circle PCD is the required locus.

13306. (Professor SANJÁNA.)—In an isosceles triangle ABC, right-angled at C, CA is bisected in D, and DG is drawn perpendicular to AB; prove that $AG = \frac{1}{3}GB$. Hence, or otherwise, inscribe (geometrically) in a quadrant of a circle a square having two angular points on the arc. [The first part proves that $\tan^{-1}\frac{1}{2} + \tan^{-1}\frac{1}{3} = \frac{1}{4}\pi$.]

Solution by J. W. WEST, M.A.; W. E. JEFFARES, B.A.; *and others.*



Let ABC be the isosceles triangle, right-angled at (C), and D the bisecting point of (AC).

Then, as $\angle(AGD)$ is a right angle by construction,

$\angle(ADG) = \angle(ABC)$

[Euc. I. 32 and Ax. 3]

and $DG : DA \; (= \frac{1}{2}AC = \frac{1}{4}\sqrt{2}\,AB)$

$:: AC \; (= \frac{1}{2}\sqrt{2}\,AB) : AB$;

$\therefore$ $DG = \frac{1}{4}AB = \frac{1}{3}GB$.

Hence, to inscribe a square in the quadrantal area (ABC), having two angular points on the arc (AB).

Bisect (AC) at (D), and draw the straight line (BD).

From the centre (B) at the distance (BC) describe the arc ($C\alpha$).

From the centres (A) and (B) at the distance ($C\alpha$), strike arcs intersecting arc (AB) in (δ) and (β).

($\delta\beta$) shall be one side of the inscribed square.

Because $\text{arc}(\delta\beta) = \text{arc}(AB) - 2\,\text{arc}(C\alpha)$

$= $ by construction, $\frac{1}{2}\pi - 2\tan^{-1}\frac{1}{2} = 2\tan^{-1}\frac{1}{3}$.

QUESTIONS FOR SOLUTION.

13400. (Professor SYLVESTER. 19th Jan., 1897.)—There are μ quantities differing from one another by unity at most. (1) Prove that μ times the sum of their squares exceeds the square of their sum by not more than $\frac{1}{4}\mu^2$ or $\frac{1}{4}(\mu^2 - 1)$, according as μ is even or odd; (2) supposing all the quantities to be positive, prove that the sum of their *positive* differences is never greater than $\frac{1}{4}\mu^2$ or $\frac{1}{4}(\mu^2 - 1)$, according as μ is even or odd.

13401. (Professor NEUBERG.)—Les côtés AB, BC, CD, DA d'un quadrilatère ABCD touchent une circonférence aux points a, b, c, d. Démontrer que

$$\frac{(ac)^2}{(bd)^2} = \frac{AD \,.\, BC}{AB \,.\, DC}.$$

13402. (Professor C. COCHEZ.)—On donne deux axes rectangulaire Ox, Oy. Une parabole reste tangente à Oy en O et passe par un point A donné sur Ox, ayant pour abscisse $2a$. Trouver et construire (1) le lieu du point de contact d'une tangente à la parabole, parallèle à Ox; (2) l'enveloppe de la directrice de la parabole; (3) le lieu du foyer de la parabole; (4) le lieu du sommet de la même parabole.

13403. (Professor SANJÁNA.)—If $a_z \equiv a(a+1)(a+2)\ldots(a+z-1)$,

prove that $(y+x)_z = y_z + z \,.\, y_{z-1}x_1 + \dfrac{z(z-1)}{1 \cdot 2} \,.\, y_{z-2}x_2 + \ldots + x_z$ ..... (1),

$$= y + z.(y+1)_{z-1}x + \frac{z(z-1)}{1\cdot 2}.(y+2)_{z-2}(x-1)_2 + \ldots + (x-z+1)_z \ldots\ldots (2);$$

hence or otherwise show that $(q-1)/(pq-1)$

$$= \frac{|\underline{pq-q}\ |\underline{pq-m-1}}{|\underline{pq-1}\ |\underline{pq-m-q}} \left\{ \frac{q-1}{pq-q-m+1} + \frac{(q-1)(q-2)(m-1)}{(pq-q-m+1)(pq-q-m+2)\,|\underline{1}} \right.$$

$$\left. + \frac{(q-1)(q-2)(q-3)(m-1)(m-2)}{(pq-q-m+1)(pq-q-m+2)(pq-q-m+3)\,|\underline{2}} + \ldots \right\} \ldots\ldots\ldots (3).$$

[All symbols denote positive integers. Formula (3) is quoted by Rev. T. C. SIMMONS on p. 38 of Vol. LXII. of *Reprint*, from a solution in a previous volume. An error of transcription apparently occurs there, as the factorials in the denominator of the large bracket are omitted.]

13404. (Professor A. DROZ-FARNY.)—Comment doit être situé un point P pour que son hyperbole d'APOLLONIUS par rapport à une ellipse donnée ait son centre sur l'un des deux diamètres conjugués égaux de l'ellipse? Dans ce cas l'hyperbole est tangente au second de ces diamètres.

13405. (Professor RAMASWAMI AIYAR.)—If a system of similar ellipses have a common centre and all of them touch one of them, the locus of their foci consists of two circles.

13406. (Professor NANSON.)—If u, u', are essentially positive quadratic functions of x, $\displaystyle\int_{-\infty}^{+\infty} \log \frac{u'}{u}\frac{dx}{u} = \frac{\pi}{\sqrt{\Delta}} \log \frac{H + 2\sqrt{(\Delta\Delta')}}{4\Delta}$

where Δ, Δ' are the discriminants of u, u' and H is the invariant intermediate to Δ, Δ'.

13407. (Professor MUKHOPADHYAY.)—Prove that (1) the number of ways in which r things may be distributed among $n+p$ persons, so that certain n of those persons may each have one at least is

$$(n+p)^r - n(n+p-1)^r + \frac{n(n-1)}{2\,!}(n+p-2)^r \ldots;$$

and (2) that $S_1 = S_2 = \ldots = S_{n-1} = 0$, $S = n!$ $S_{n+1} = (\frac{1}{2}n+p)(n+1)!$.

13408. (Professor CHAKRIVARTI.)—A conic always touches four given straight lines; prove that the chord of intersection of the circle, described about any one of the triangles formed by three of these straight lines, with the circle which is the locus of the intersection of two tangents to the conic at right angles to each other, always passes through a fixed point.

13409. (Professor SARKAR.)—Three circles, touching each other externally, are all touched by a fourth circle including them all. If a, b, c be the radii of the three internal circles, and α, β, γ the distances of their centres from that of the external circle, respectively, prove that

$$2\,(\beta\gamma/bc + \gamma\alpha/ca + \alpha\beta/ab) = 4 + \alpha^2/a^2 + \beta^2/b^2 + \gamma^2/c^2.$$

13410. (Professor ROSS.)—From a point P without a rectangular field ABC, the distances PA, PB, and PC measured to the corners are respectively 70, 40, and 60 chains. What is the area of the field?

13411. (Professor BEYENS.)—A person, standing on a level plain, observes the angles of elevation of two distant towers. He then walks towards them always in a direction midway between the directions of the two towers. When exactly in the line between the two towers, he observes their elevations to be l and m times their former values. Prove that, at the latter observation, the distances of the two towers are in the ratio of $m-l : l-1$ nearly.

13412. (Professor TAYLOR.)—Given a variable parallelogram ABCP, where P remains fixed. A moves on an irregular plane curve (closed), and C moves on another plane curve (closed) whose plane is parallel to the plane of (A) curve. The generator PC moves completely around and returns to its initial position, AB always moving parallel to PC, and, of course, returns to its initial position. If distances between planes (A) and (C) $= h$, show by elementary mathematics and without using theorem of KOPPE that volume of solid generated by variable parallelogram ABCP $= \frac{1}{2}h$ (area generated by AP + area generated by BC).

13413. (Professor GENESE, M.A.)—The late Professor CATALAN wrote that he had during thirteen years, *à diverses reprises*, unsuccessfully tried to prove directly the following theorem, viz., $a, b, c, \ldots k$ being any unequal quantities,

$$\left\{\frac{1}{a-b} + \frac{1}{a-c} + \frac{1}{a-d} + \ldots + \frac{1}{a-k}\right\}\frac{1}{(a-b)^2(a-c)^2\ldots(a-k)^2}$$

$$+ \left\{\frac{1}{b-a} + \frac{1}{b-c} + \ldots + \frac{1}{b-k}\right\}\frac{1}{(b-a)^2(b-c)^2\ldots(b-k)^2} + \ldots$$

$$+ \left\{\frac{1}{k-a} + \frac{1}{k-b} + \frac{1}{k-c} + \ldots \frac{1}{(k-h)}\right\}\frac{1}{(k-a)^2(k-b)^2\ldots(k-h)^2} \equiv 0:$$

show that the identity may be established either without, or, better, with, the aid of the differential calculus.

13414. (Professor CLAYTON.)—Prove that, if a system of conics passes through four fixed points, their director circles envelope a bicircular quartic; and, more generally, "If a system of quadric surfaces have a common curve of intersection, their director spheres touch a cyclide along a curve."

13415. (EDITOR.)—Given (1) the sum of two sides of a triangle, or (2) the sum of the squares of those sides, find in each case the mean value of the third side, and of the square of the third side.

13416. (D. BIDDLE.)—AB being the base of a semicircle, and O the centre, take a fixed point P in AO, and a random point Q in the circumference; join AQ, PQ, and find the mean value of the angle AQP.

13417. (MORGAN BRIERLEY.)—From a point midway in the space between two concentric circles describe another to intersect them; the versed sines of the intercepted arcs adjacent to the point are equal to each other. Required the demonstration.

13418. (R. KNOWLES, B.A.)—A circle having a fixed centre O, on the transverse axis of a given conic, cuts the conic in four variable points A, B, C, D; the line joining the poles of AB and CD, with respect to the conic, meets the circle in F, G. Prove that the locus of the mid-point of FG is a circle through O.

13419. (W. S. B. WOOLHOUSE, F.R.A.S.)—Find the equation of the surface-locus of the foci of central sections of a given ellipsoid.

13420. (Capt. H. BROCARD. Généralisation de la Quest. 8407.)—Les droites qui joignent les sommets d'un triangle ABC à un point Δ déterminent sur les côtés des points α, β, γ, par chacun desquels on mène des parallèles aux deux autres côtés du triangle donné. L'on obtient ainsi les points (λ', λ), (μ', μ), (ν', ν) sur les côtés a, b, c, en suivant les côtés du triangle respectivement dans l'ordre direct des côtés et dans l'ordre inverse. Cela posé, les triangles $\lambda'\mu'\nu'$, $\lambda\mu\nu$, ainsi déterminés, sont homologiques avec le triangle ABC, et admettent pour centres d'homologie deux points δ' et δ, appelés aussi *point direct* et *point rétrograde* par rapport au point Δ (E. LEMOINE). Si le point initial Δ est le point de LEMOINE K, δ' et δ deviennent les points de BROCARD, ω' et ω. M. DE LONGCHAMPS a établi que, dans ce cas, les trois triangles $\lambda'\mu'\nu'$, $\lambda\mu\nu$, $\alpha\beta\gamma$ sont équivalents. Démontrer qu'il en est encore ainsi dans le cas général défini par la construction précédente.

13421. (MAURICE D'OCAGNE.)—Si une cubique unicursale tritangente à une conique découpe, sur chacune des tangentes aux trois points de contact, un segment qui soit vu de l'un des foyers de la conique sous un angle droit, l'un des segments déterminés par cette cubique sur une tangente quelconque à la conique est vu du même foyer sous un angle droit.

13422. (A. GORDON.)—Show geometrically how to find a point M on an ellipse such that, P, Q being two points on the same side of any diameter DCD′, MP, MQ shall cut off equal segments on this diameter measured from c, the centre. [Extension of one of Professor CATALAN'S.]

13423. (H. W. CURJEL, M.A.)—If the opposite sides AB, DC of a quadrilateral meet in E, and AD, BC in F, and any straight lines EMN, PFQ are drawn through E and F, cutting AD, BC and AB, DC in M, N and P, Q, show that PN, MQ cut on AC and PM, NQ on BD.

13424. (R. F. DAVIS, M.A.)—(1) If E be the centre of mean position for multiples l, m, n, at A, B, C, respectively, and ET the tangent to the circumcircle of ABC, prove that

$$l\mathrm{PA}^2 + m\mathrm{PB}^2 + n\mathrm{PC}^2 = (l+m+n)(\mathrm{PE}^2 - \mathrm{ET}^2).$$

Deduce that the equation $l\mathrm{PA}^2 + \ldots + \ldots = 0$ represents generally a circle cutting orthogonally the circumcircle, the trilinear coordinates of whose centre are $(l/a, m/b, n/c)$. When $l+m+n = 0$ the above locus degenerates into a diameter of the circum-circle; as, for example,

$$(b^2 - c^2)\,\mathrm{PA}^2 + \ldots + \ldots = 0$$

represents the join of the circum- and ortho-centres upon which lie, *inter alia*, the special points $\mathrm{PA}^2 : \mathrm{PB}^2 : \mathrm{PC}^2 = a^2 : b^2 : c^2$, or $\cot \mathrm{A} : \cot \mathrm{B} : \cot \mathrm{C}$.

(2) If ABC be a triangle, prove that the locus represented by

$$a^2(b^2-c^2)\,\mathrm{PA}^2 + b^2(c^2-a^2)\,\mathrm{PB}^2 + c^2(a^2-b^2)\,\mathrm{PC}^2 = 0$$

is the join of the circumcentre and the symmedian point ("diamètre de BROCARD"); and upon it lie (*inter alia*) the point-pairs defined by

PA : PB : PC = cosec A : cosec B : cosec C (equilateral pedal triangles),

or = cot A : cot B : cot C

or = $(a^2 - b^2c^2/a^2) : \ldots : \ldots$ &c., &c.

13425. (J. J. WALKER.)—Show that the vector equation to the surface generated by a transversal meeting the three lines through the terms of the vectors λ, μ, ν and parallel to the vectors α, β, γ respectively is

$$\xi S\alpha\beta\gamma = \Sigma\,\alpha\left\{(1+h_1)\,S\mu - h_1 S\nu\right\} V\beta\gamma, \quad \text{with} \quad 1 + \Sigma\,h_1 + \Sigma\,h_2h_3 = 0.$$

13426. (F. A. L. KITCHIN, B.A.)—An observer on board a ship steaming S. at 20 knots, in latitude about 50° N., observes the maximum altitude of a star of declination 30° S. Show that this takes place at nine minutes after meridian passage, and that the altitude exceeds the meridian altitude by $1\frac{1}{2}'$. Give also the investigation of the general problem.

13427. (W. C. STANHAM.)—If the pair of equation

$$lx + my + n \pm i\,(l'x + m'y + n') = 0 \quad [\text{where } i = (-1)^{\frac{1}{2}}]$$

are interpreted as representing the locus of the extremity of a line of length $\pm\left\{(l'x_1 + m'y_1 + n')/n\right\}$ units of length, drawn from a variable point (x_1, y_1) in the line $lx + my + n = 0$, parallel to a fixed straight line L which neither lies in the plane of (x, y) nor is parallel to it, show that the equations of a pair of imaginary tangents to the circle $x^2 + y^2 = a^2$ from a point (x', y') within it represent two straight lines, and find their angle of inclination to the plane of (x, y) when L is perpendicular to this

plane. Mention the limiting values of this angle for limiting values of a and positions of (x', y').

13428. (C. Mitchell.)—EF is a portion of the circumference of a circle of which O is the centre; A and B are two given points in the same plane. Find, by a geometrical construction, a point R on the circumference such that lines drawn from A and B to R shall make equal angles with the radius OR. [A geometrical curve, such as a conic, may be employed to determine the required point.]

13429. (P. W. Flood.)—Construct a triangle (geometrically) having given the base, the altitude, and sum of sides.

NOTICE TO CORRESPONDENTS.

Owing to the Mathematical Editor's illness, it is requested that, till further notice, all Mathematical communications should be sent, not to the Editor's private address as heretofore, but to

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January 14, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Present, fourteen members and a visitor. Mr. W. H. Blythe, M.A., late scholar of Jesus College, Cambridge, and Mr. E. H. Moore, Ph.D., Yale University, Professor of Mathematics in the University of Chicago, were elected members.

Professor Sylvester, F.R.S., spoke at some length on the partition of an even number into two primes, and answered numerous questions.

Mr. J. J. Walker, F.R.S., gave a solution of a certain Quadratic Vector Equation.

The following papers were communicated by their titles, viz.:—

"Supplementary Note on Matrices," Mr. J. Brill, M.A.

"Some Properties of Bessel's Functions," Dr. Hobson, F.R.S.

Mr. T. I. Dewar exhibited a large number of stereoscopic pictures of the Algebraic Catenary.

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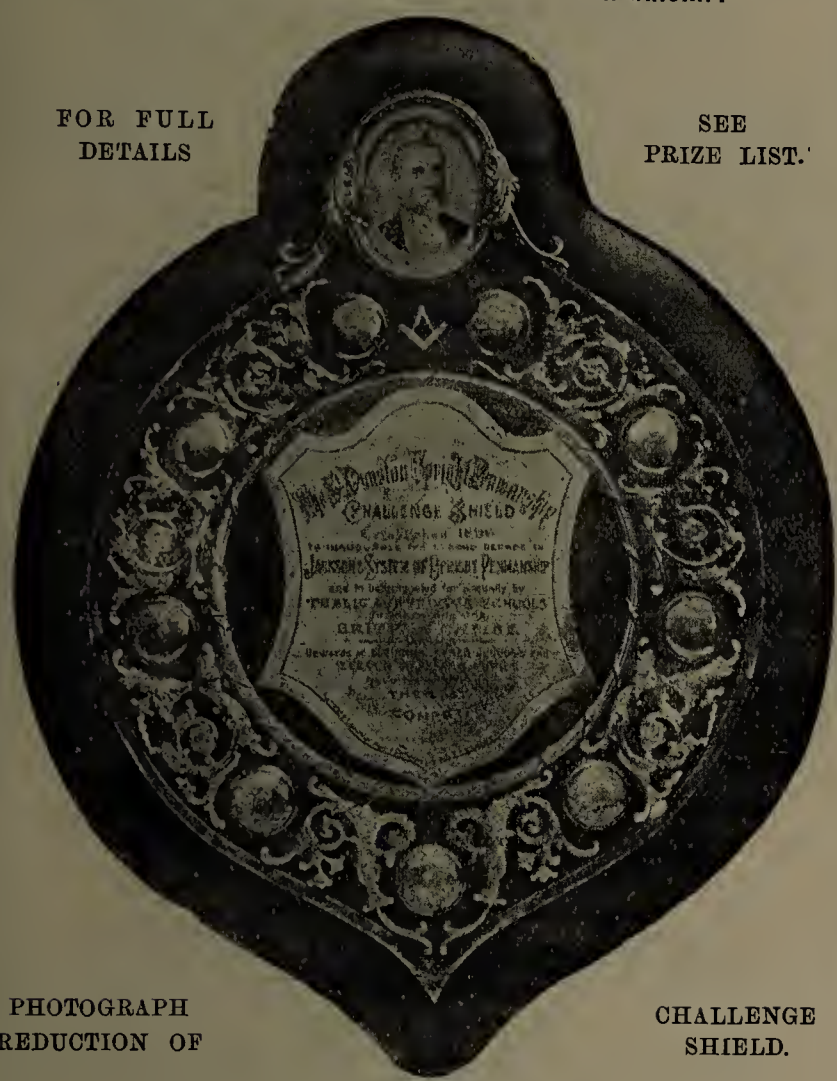

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f. = French.
g. = Geography.
gr. = Greek.
ger. = German.
h. = History.
heb. = Hebrew.
i. = Italian.
l. = Latin.
m. = Mechanics.
ms. = Mensuration.
mu. = Music.
nat. = Natural History.
p. = Political Economy.
s. = Scripture.
sd. = Sound, Light, and Heat.
sh. = Shorthand.
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Brown, W. H. — Judd's Commercial S., Tonbridge.
Spofforth, R. — Thorne Grammar School, Doncaster.
Kay, W. R. *d.* — Oxenford House School, Jersey.
Salmon, V. — Great Ealing School, W.
Exley, E. J. — Wellington College, Salop. *eu. ms. el. ch. d.*
Fürst, A. E. *ger. d.* — St. John's College, Green Lanes, N.
Farish, J. W. *el.* — Wellington College, Salop.
Spurway, F. *s.* — East Cornwall College, Liskeard.
Vernon, R. *el.* — Wellington College, Salop.

First Class.—Pass Division.

Nash, A. C. *bk.* — The High School, Brentwood.
Clark, A. H. *nat.* — Bourne College, Birmingham.
Billington, J. C. *el.* — Wellington College, Salop.
Dennis, H. — St. Martin's Gram. S., Scarborough.
Harvey, W. S. — Cliftonville College, Margate.
Smith, F. *s. a. ms.* — Grammar School, Gillingham.
Phillips, J. H. — Wellington College, Salop.
Scholey, C. W. *sh.* — Monk Bridge School, York.
Alford, S. C. — Dr. Morgan's School, Bridgwater.
Colman, D. R. — Chaloner's School, Braunton.
Taylor, J. R. — Private tuition. *al. ms. d.*
White, H. L. — Archbishop Holgate's School, York.
McNeill, G. J. *d.* — Grammar School, East Finchley.
Birch, F. J. *s.* — The College, Weston-super-Mare.
Blackett, H. E. *e. ms.* — Trowbridge High School.
Bremner, G. H. — Oakes Institute, Walton, Liverpool.
Hampton, S. W. — Wilsford House School, Devizes.
Samson, T. S. *ger.* — Stoke Newington Grammar School.
Smyth, E. H. *s.* — Private tuition.
Davidson, D. W. — Stoke Newington Grammar School.
Walker, F. C. — University School, Southport
Tylecote, F. E. — Private tuition.
Machin, H. R. — Combe Lodge, Malvern.
Stonebridge, J. B. *s.* — Private tuition.
Le Feuvre, P. J. — Private tuition. *f. ger*
May, W. J. — Boys' Collegiate School, Aldershot.
Stevenson, W. E. — Newcastle Modern School.
Foster, W. A. — Elmfield College, York.
Lester, L. R. — Christ's College, Blackheath.
Mobbs, F. *s. sd. sh.* — Collegiate School, Kettering.
Webb, H. J. — Tiverton Middle Schools.
Edwardson, W. — Farnworth Grammar S., Widnes.
Jackson, W. B. *cl.* — Wellington College, Salop.
Parker, L. — Dr. Morgan's School, Bridgwater.
Salmon, H. C. *s.* — Kendrick Boys' School, Reading.
Seward, H. — Dr. Morgan's School, Bridgwater.
Nield, S. — Farnworth Grammar S., Widnes.
Robinson, J. H. *c.* — Private tuition.
Behrendt, C. A. J. — Thorne Grammar School, Doncaster.
Phillips, W. N. — Clyde House, Hereford.
Barton, H. E. — Stoke Newington Grammar School.
Wehner, C. H. M. — High School, Sutton, Surrey.
Clegg, W. — Woodhouse Grove S., near Leeds.
Dennis, J. *bk.* — Cliftonville College, Margate.
Petch J. H. — St. Martin's Gram. S., Scarborough.
Tyler, F. J. — Dr. Morgan's School, Bridgwater.
Horder, C. E. — Private tuition.
Thierry, G. L. E. J. J. — Manor House College, Hastings. *f. ch.*
Brewins, J. A. *el.* — Read's School, Drax, Selby.
Fox, F. N. *d.* — Sidcot School, Winscombe, Som.
Cowper, C. M. L. *e.* — Haileybury College, Hertford.
Beck, L. — Tiverton Middle Schools.
Wharton, H. G. M. — Clapham Collegiate School, S.W.
Beken, F. W. *s.* — Cowes Grammar School.
Hubbard, P. W. — Clapham Collegiate School, S.W.
Russell, F. S. *s. c.* — Castle Hill School, Ealing, W.
Buckley, G. K. — Elmfield College, York.
Buckley, H. A. — Grafton House School, Manchester.
Aviss, H. M. *ch.* — Borden School, Sittingbourne.
Hocquard, S. *d.* — Victoria College, Jersey.
Pochin, C. D. — Milton College, Ullesthorpe.
Ritson, A. — Oakes Institute, Walton, Liverpool.
Wade, R. — University School, Reigate.
Potts, J. T. S. — Leeds Church Middle Class School.
Thomas, W. B. — Christ's College, Brecon.
Thomson, C. D. *d.* — Tollington Park College, N.
Beeman, R. A. — Vermont College, Clapton.
Buchanan, H. W. *sh.* — St. George's College, Wimbledon.
Messenger, G. B. — University School, Southport.
White, R. F. — Grammar School, Gillingham.
Bottomley, H. — Leeds Church Middle Class School.
Cubitt, H. W. — St. Margaret's College, Lowestoft.
Martin, F. J. — Winchester House, Redland, Bristol.
Teal, A. M. *f. d.* — Paignton School, Devon.
Wheatstone, C. A. — Warwick House School, Southsea.
Cooper, L. — Wingfield House, Dover.
Baldwin, E. — Farnworth Grammar School, Widnes.
Charles, A. — Farnworth Grammar School, Widnes.
Marlowe, E. V. — Catholic Collegiate School, Lytham.
Husband, A. W. L. — East Cornwall College, Liskeard.
Williamson, E. J. W. *el.* — Grosvenor College, Luton.
Taylor, A. R. H. — Boys' Collegiate School, Aldershot.
Twite, R. C. N. — Private tuition.
Hodgson, E. J. — The High School, Brentwood.
Shapland, W. — Tiverton Middle Schools.
Lindquist, O. — Grove House School, Highgate.
Loughnan, C. — Ebor School, Bexhill.
Thomas, A. F. — Royal Grammar S., High Wycombe.
Morrison, A. C. L. — Tollington House, Faringdon, Berks.
Stiles, V. H. — Castle Hill School, Ealing, W.
Bisseker, H. T. *f.* — Wellington College, Salop.
Cameron, C. S. — Merchant Taylors' School, Crosby.
Ellis, H. — Leeds Church Middle Class School.
Jenkins, W. J. — Hazelcroft, Weston-super-Mare.
Reid, J. *gcr.* — Stoke Newington Grammar School.
Bowater, W. — Private tuition.
Chaplin, E. S. *s. sh.* — Cavendish College, Southampton.
Jones, R. P. — Gelligaer County School.
Le Rissignol, S. J. — Beaumont House School, Jersey.
Prosser, A. J. — Gelligaer County School.
Nicholls, E. — Edward VI. Gram. S., Southampton.
Smith, M. — Leeds Church Middle Class School.
Williams, E. M. *a.* — Devonport High School.
Seabrook, W. C. — East Cornwall College, Liskeard.
Hodgson, W. W. — Private tuition.
Skinner, C. M. — King's School, Canterbury.
Phipps, F. E. — Weston School, Bath.
Stirling, W. H. — Dr. Morgan's School, Bridgwater.
Linn, J. S. — St. Martin's Gram. S., Scarborough.
Ellen, E. — Private tuition.
Speight, D. E. — Private tuition.
Thorpe, W. S. — Leeds Church Middle Class School.
Hague, E. H. — Farnworth Grammar S., Widnes.
John, H. T. — Gelligaer County School.
Reed, E. W. — Elmfield College, York.
Roberts, R. — Hillsborough S., Tunbridge Wells.
Sydney, H. H. — The College, Highbury New Pk., N.
Shaply, J. B. — Tiverton Middle School.
Davis, E. *bk. d.* — Ascham College, Clacton-on-Sea.
Philpott, C. — Wellington College, Salop.
Williams, L. P. *mu.* — Hart House S., Burnham, Somerset.
Williams, P. L. — Archbishop Holgate's School, York.
Anderson, A. W. *s.* — Ebor School, Bexhill.
Oakes, W. A. — Oakes Institute, Walton, Liverpool.
Wilkinson, G. A. — 18 Bath Rd., Bedford Pk., Chiswick.
Cothay, C. T. — Argyle House School, Sunderland.
Nicholls, R. J. — High School, Sutton, Surrey.
Souter, C. *bk.* — Claremont College, Blackpool.
Wheat, F. G. *sh.* — Private tuition.
Whitehouse, G. *el.* — Wellington College, Salop.
Whitsed, J. D. *sh.* — Barton School, Wisbech.
Waterhouse, A. W. *d.* — Private tuition.
Thomas, H. E. — Borden School, Sittingbourne.
Bree, A. P. — St. James's Collegiate S., Jersey.
Monk, W. W. G. — Sydney House College, Stockwell. *bk. sh.*
Butler, L. O. — The Douglas School, Cheltenham.
Targett, E. J. — Bourne College, Birmingham.
Case, C. B. — Private tuition.
Gardner, P. J. — The College, Weston-super-Mare.
Dell, J. A. — Sidcot School, Winscombe, Som.
Blundun, B. V. — Paignton School, Devon.
Tyrrell, F. J. F. — Private tuition.
Kenny, H. W. — Cavendish College, Southampton.

Second Class.—1st Division.

Solly, W. R. *bk. ms.* — Gravesend Modern School.
[1]Lonnon, W. U. *el. d.* — Devonport High School.
Spiller, J. E. *e.* — Private tuition.
Bullivant, J. A. — Polytechnic Intermediate School, W.
Gauvain, H. J. *g. sh.* — Private tuition.
Gray, A. M. H. *ch.* — Cheltenham College.
[1]Richards, H. W. H. — Tollington Park College, N. *d.*
Parker, C. G. — Bourne College, Birmingham.
Spiers, A. H. — Brighton Grammar School.
[1]Williams, E. A. *sh.* — School of Commerce, Chester.
Roch, S. G. *ms.* — Devonport High School.
Sweet, S. H. *ms.* — The High School, Merthyr Tydfil.
Clementi-Smith, H. D. — St. Paul's S., West Kensington. *gcr.*
Shepherd, J. — Private tuition.
Drummond, E. H. — Elmfield College, York.
Mayston, L. G. — East Anglian S., Bury St. Edmunds.
Benjamin, J. B. — Harrogate College.
[1]Trevethick, A. M. E. — Bourne College, Birmingham. *el. nat.*
Whaite, H. H. — Ashville College, Harrogate.
Allen, E. — Wellington College, Salop.
Jenkinson, H. — Vernon House School, Brondesbury.
Swinstead, H. *sh.* — Clapham Collegiate School, S.W.
Barraud, P. J. — Halstead Grammar School.
Wood, R. W. L. *d.* — The College, Gildersome, Leeds.
Hopper, H. E. — Private tuition.
Nixon, D. G. — Penketh Friends' S., nr. Warrington.
Hurst, W. — Wellington College, Salop.
Mace, A. H. — Ebor School, Bexhill.
Spackman, R. J. — Wilsford House School, Devizes.
Botterill, M. *cl.* — Leeds Church Middle Class School.
Bridge, N. C. — Grammar School, Streatham, S.W.
Grose, H. N. — Private tuition.
Grant, J. J. — Ashville College, Harrogate.
Tranter, A. C. — Highfield School, Chertsey, Surrey.
Cleverton, T. C. A. — Devonport High School.
Jamieson, W. *el.* — Private tuition.
Kershaw, S. — Grove House School, Highgate.
Ries, J. H. — Clapham Collegiate School, S.W.
Russell, E. S. — Bourne College, Birmingham.
Green, R. J. — Argyle House School, Sunderland.
Knowlson, W. — Easingwold Grammar School.
Pemberton, T. E. — Private tuition.
Tebbutt, W. G. — Leeds Church Middle Class School.
Watts, R. L. — Loughton School, Essex.
Harris, P. G. — Devonport High School.
Smith, E. D. — Wilsford House School, Devizes.
Ward, F. C. — Lucton School, Herefordshire.
Crombie, H. — Collegiate School, Grimsby.
Hives, G. G. — Leeds Church Middle Class School.
Bull, S. W. — St. Augustine's Gram. S., Dewsbury.
Fuller, H. W. — Halstead Grammar School.
Tuffee, H. — Gravesend Modern School.
Wright, J. H. — High School for Boys, Bolton.
Burges, R. — Wellington College, Berkshire.
Haydon, M. *bk.* — Tiverton Middle Schools.
Manser, W. B. — Banham Grammar School, Attlebro

BOYS, SECOND CLASS—*Continued.*

Rosevere, A. G.	Devonport High School.
Starling, B. W. T.	Halstead Grammar School.
Torrens, J. A.	St. Paul's School, West Kensington.
Harding, F. H.	Anerley College, Anerley, S.E.
Ronchetti, T.	Ilkley College, Ilkley, Yorks.
Spielman, F. I.	Private tuition.
Adkin, A.	People's College, Nottingham.
Bluett, E. E.	Balham School, S.W.
Bourdas, J. *sh.*	Cathedral School, Hereford.
Chase, W. H.	Blundell's School, Tiverton.
Eastwood, A.	Burnley Grammar School.
Self, P. A.	Kingston School, Yeovil.
Wardley, A. W.	High School, Bromley, Kent.
Boyd, M. O.	Private tuition.
Cocking, T. T.	Private tuition.
Johns, G. A. R.	Lucton School, Herefordshire.
Jones, H.	Wellington College, Salop.
Dale, R.	Easingwold Grammar School.
Warren, C.	Devonport High School.
[1]Allwood, W. T.	Oxenford House School, Jersey.
Bowis, W.	People's College, Nottingham.
Harvey, M. G.	Cliftonville College, Margate.
Haswell, W. H.	Wellington College, Salop.
Haward, A. W.	The College, Lowestoft.
Morgan, F. W. *sh.*	Grammar School, Weston-s.-Mare.
Perry, F. W.	Private tuition.
Summers, H. H.	St. Martin's Gram. S., Scarborough.
Taylor, W. J. P.	Winchester House, Redland, Bristol.
Wright, E.	Kendrick Boys' School, Reading.
Dowlen, C. W.	Grammar School, East Finchley.
Ellis, L. C. *e.*	Private tuition.
Hopwood, A. W.	Loughton School, Essex.
Jones, H. E.	Mercers' School, E.C.
Penney, A.	Tiverton Middle Schools.
Walsh, T. J.	Old Elvet School, Durham.
Woodward, J.	Tiverton Middle Schools.
Zoccola, A. R.	Maidenhead College.
Brodribb, F. A. *d.*	St. Paul's School, West Kensington.
Burrows, A. C.	North London Collegiate S., N.W.
Watel, H.	Loughton School, Essex.
Adamson, J. W. W.	Private tuition.
Daglish, J.	Newcastle Modern School.
Dinn, L. P.	Hoscote House S., West Kirby.
Driver, J. W.	Longsight Grammar S., Manchester.
Hammond, W. S.	Thorne Grammar School, Doncaster.
Riches, R. T.	Felix Institute, Lavender Hill, S.W.
Wright, H. *sh.*	St. John's Roy. Latin S., Buckingham.
Hughes, W.	St. Martin's Gram. S., Scarborough.
Lyon, P. H.	Ebor School, Bexhill.
Mionnel, R. A.	The School, Eaton Socon.
Proud, H. M.	The High School, Brentwood.
Read, A. B. H.	Warwick House School, Southsea.
Rivaz, P. M.	Private tuition.
Wright, F. O.	Ripon Collegiate School.
Ball, G.	Catholic Collegiate School, Lytham.
Cooke, L.	Trafalgar Lawn, Barnstaple.
Gaunt, F.	Milton Abbas School, Blandford.
Mylan, N.	Ilkley College, Ilkley, Yorks.
Paxton, E. J.	Private tuition.
Reed, K. H.	Private tuition.
Riviere, B. B. *d.*	St. Paul's School, West Kensington.
Tomlinson, A. M.	Cathcart College, Cathcart Hill, N.
Bryan, J.	Devonport High School.
Burnie, S. J.	People's College, Nottingham.
Finestone, H. *sh.*	Liverpool Coll., Shaw St., Liverpool.
Flanders, P.	North London Collegiate S., N.W.
Green, T. S.	Castle Hill School, Ealing.
Huxtable, F.	Tiverton Middle Schools.
Poole, C. R.	Eversley House School, Stamford.
Price-Hughes, H. A.	St. Paul's School, West Kensington.
Priddy, E.	Earl's Colne Grammar School, Essex.
Foster, R. B.	Old Elvet School, Durham.
Lindsay, L. *f.*	Wyllies, Cuckfield.
Sharpe, P.	Collegiate School, Grimsby.
Collis, A.	Brighton Grammar School.
Cooke, C.	Farnworth Grammar School, Lancs.
Duncan, H. T.	Halstead Grammar School.
Gardner, A. L.	Ilfracombe College.
Knape, H.	Elmfield College, York.
Padbury, E. H.	St. Martin's Gram. S., Scarborough.
Wilcock, W. H.	People's College, Nottingham.
Barnes, L. L.	Devonport High School.
Cox, S. W. *d.*	High Park Hall College, Ryde, I. W.
Hawkins, W. L.	Private tuition.
Hosford, D. A. *d.*	Private tuition.
[1]Morris, L. H. H. *el.*	Read's School, Drax, Selby.
Motta, A. C.	Private tuition.
Sharp, M.	Devonport High School.
Thompson, F.	Earl's Colne Grammar S., Essex.
Vincent, F. M.	Barton School, Wisbech.
Hayes, H. C.	Barton School, Wisbech.
Hills, F. B.	Earl's Colne Grammar S., Essex.
Hoskins, S. H.	Wellington College, Salop.
Petrie, A. S.	Private tuition.
Smith, R. C.	Brighton Grammar School.
Swingler, F. W.	People's College, Nottingham.
Thirlwall, E.	Clyde House, Hereford.
Trethowan, W. H.	Devonport High School.
Beckett, F. F. *bk.sh.*	Lewisham Park School, S.E.
Colman, H. M.	Chaloner's School, Braunton.
Lloyd, J. D. S.	Private tuition.
Oakes, G.	Thorne Hill S., Kidbrook, Bl'kheath.
[1]Ollis, H.	Mile End House School, Portsmouth.
Carter, R. H.	Sidcot School, Winscombe, Som.
Gunson, W. C.	Catford Collegiate School, S.E.
Hill, F. J.	Sidcot School, Winscombe, Som.
Macvean, H. J.	Technical College, Bradford.
Marshall, C. F.	The Crossley and Porter S., Halifax.
Parkinson, J. E.	Burnley Grammar School.
Poole, E. J.	The College, Weston-super-Mare.
[1]Southern, G. A. *el.*	Read's School, Drax., Selby.
Strahan, S. S.	St. Paul's School, West Kensington.
Challenger, E. J.	The High School, Weston-s.-Mare.
Deshormes, C. H.	Winchester House, Redland, Bristol.
Ellis, A. F.	Banbury School, Oxon.
Feiron, G.	Polytechnic Intermediate School, W.
Harman, J. B.	Grammar School, Belper.
Ball, J. B.	Hazelcroft, Weston-super-Mare.
Brough, H. J.	Mercers' School, E.C.
Criswell, H.	Modern School, East Grinstead.
Holford, C. T.	Private tuition.
Maile, G. W. C.	Private tuition.
Parsons, W.	Private tuition.
Stapleton, H. L.	Stoke Newington Grammar School.
[1]Tremlett, F. T. G.	Boys' Collegiate School, Aldershot.
Grant, R. J.	Ongar Grammar School.
Hunt, E. B. K.	Wellington College, Salop.
Lee, E. W.	Elmfield College, York.
Lewis, W. P.	The High School, Merthyr Tydfil.
[1]Lightbown, H. B.	The Grammar School, Eccles.
Roberts, R. J.	Private tuition.
[1]Russell, G. H.	Castle Hill School, Ealing.
Stewart, H. D.	Private tuition.
[1]Walsh, J. S.	Old Elvet School, Durham.
White, J. W. D.	High Park Hall College, Ryde, I. W.
Bennett, W. A.	Brighton Grammar School.
Bufton, W. R.	Clyde House, Hereford.
Friend, J. G.	Bournemouth Commercial School.
Grimley, F. C.	Private tuition.
Hilton, E.	Collegiate School, Bishop Auckland.
Nursey, R. A.	The College, Lowestoft.
Owen, W.	Wellington College, Salop.
Pellow, C. J.	Boys' Coll. & High S., Southampton.
Perman, A.	St. Paul's School, West Kensington.
Read, F.	Burnley Grammar School.
Rogers, F. V.	Preliminary Medical College, E.C.
Thurlow, E. T.	Banham Grammar School, Attlebro'.
Webb, R. E.	Christ's College, Blackheath.
Wilson, H. T.	Private tuition.
Wood, W. J.	Private tuition.
Broadhead, C.	People's College, Nottingham.
Dickinson, G. S. *d.*	Colne Rd. Middle Class S., Burnley.
[1]Gardner, A.	The College, Weston-super-Mare.
Lloyd, E. H.	Wellington College, Salop.
Parkhouse, M.	Wilton Grove School, Taunton.
Pearce, F. E.	Winchester House, Redland, Bristol.
Powell, C. E.	The Crossley and Porter S., Halifax.
Rae, C. H.	Springfield College, Acton Hill.
Sims, H. C.	Grammar School, Streatham, S.W.
Skelton, E. G.	Private tuition.
Stead, J.	Spencer College, Wimbledon.
Verney, L. M.	Preliminary Medical College, E.C.
Bateman, F. M.	Preliminary Medical College, E.C.
Bradley, J. H.	Modern School, Maidenhead.
Goodwin, H. H. B.	Woodford House, Birchington.
Gow, K.	St. Paul's School, West Kensington.
Gully, P.	Private tuition.
Harris, A. I.	Oxford House S., Sutherland Av., W.
Jenkin, P.	Trevu Academy, Camborne.
Mitchell, F. T.	Clapham Collegiate School, S.W.
Petch, C. T.	St. Martin's Gram. S., Scarborough.
[1]Ransford, L. U.	Dulwich College, S.E.
Reid, J. D.	Private tuition.
Richards, D. H.	Private tuition.
Richbell, T. R.	Halstead Grammar School.
Riches, C. W. H.	Private tuition.
Wells, P. J. *d.*	St. Paul's School, West Kensington.
Brooker, J. W. G.	Preliminary Medical College, E.C.
Buckle, S. J.	The Mount Academy, Malton.
Goodchild, J. C.	Ascham College, Clacton-on-Sea.
Graves, R.	Froebel House S., Stoke, Devonport.
Hunter, D. E.	Farnworth Grammar S., Widnes.
Jones, C. L.	Pembroke College, Harrogate.
[1]Lambirth, D. L.	Private tuition.
Morice, T. A.	Hoscote House School, West Kirby.
Rankin, W. R. T.	Cowley College, New Barnet.
Taylor, J. E.	Polytechnic Intermediate School, W.
Bristow, E.	Gillingham Grammar School.
Drower, G.	Devonport High School.
Dunayne, F. E.	Colfe Gram. S., Lewisham Hill, S.E.
Hughes, E. J.	Deythenr Grammar S., Oswestry.
Jones, W. D.	County School, Bethesda, N. Wales.
Lightbown, R. S.	The Grammar School, Eccles.
Moore, P.	Rawlins S., Quorn, Loughborough.
[1]Shaw, F. L.	Lucton School, Herefordshire.
Webb, C. E.	Grosvenor College, Luton.
Wheeler, S.	Preliminary Medical College, E.C.
Whitaker, J. A.	Private tuition.
Wright, F.	People's College, Nottingham.
Yates, F. E.	Stoke Newington Grammar School.
Cosgrave, W. J.	Boys' Collegiate School, Aldershot.
Dixey, C. N. D.	Warrior Square School, Southend.
Ellis, S. C.	Read's School, Drax, Selby.
Hendersou, J.	Liverpool Coll., Lodge Law, L'pool.
Leslie, D.	Private tuition.
Mitchell, P. G.	Modern School, Maidenhead.
Moon, A.	Chaloner's School, Braunton.
Moss, E. L.	Dover College.
Mullegan, J. B. G.	Dover College.
Phillips, T. H.	Raleigh College, Brixton, S.W.
Shaw, F. P.	The Crossley and Porter S., Halifax.
Smith, S. H.	Stoke Newington Grammar School.
Spaight, F. H. M.	Private tuition.
Tyte, S. G.	Kingston School, Yeovil.
[1]Wallis, A. T. *d.*	Sidcot S., Winscombe, Somerset.
[1]Watkins, G. D.	Gelligaer County School.
Avery, H. J.	Winchester House, Redland, Bristol.
Blundun, B.	Paignton School, Devon.
Bootland, W. A.	Bourne College, Birmingham.
Bowen, W. F.	Milton College, Ullesthorpe.
Chapman, L. W.	Brunswick House, Maidstone.
Collins, W. A.	Sutton Park School, Surrey.
Cook, S.	Devonport High School.
Fisher, R. H. W.	Elmfield College, York.
Fletcher, E. de C.	Epsom College.
Gleed, C.	Kendrick Boys' School, Reading.
Halliday, G. C.	Collegiate School, Grimsby.
Kidner, W. E.	Mary St. House School, Taunton.
Lefebvre, D.	Beaumont House School, Jersey.
Murdoch, S. W.	High School, Bromley, Kent.
Schofield, H. U.	Leeds Church Middle Class School.
Seel, F. E.	Eton House, Anerley Road, S.E.
Simms, H.	The Grammar School, Eccles.
Vanes, H. W.	Brean Villa School, Weston-s.-Mare.
Atkinson, E.	Leeds Church Middle Class School.
Behrendt, O.	Thorne Grammar School, Doncaster.
[1]Bull, E. R. W. *sh.*	Gelligaer County School.
Fairer, J. A.	The Crossley and Porter S., Halifax.
Harrison, H.	Ashley House School, Worksop.
Hurst, S. B.	The High School, Brentwood.
Keuner, J.	The High School, Brentwood.
Luckett, J. S.	Wellington College, Salop.
Macnaught, D. D.	Grafton House School, Manchester.
Olver, W. T.	Oundle School, Northampton.
Rhodes, J. E.	Merton House School, Penmaenmaur.
Skelton, G. A.	Rawlin's S., Quorn, Loughborough.
Soutry, T. L. B.	Cheltenham College.
Taylor, H.	Barton School, Wisbech.
Tipton, W. R.	Wellington College, Salop.
Virley, H. A.	Ivel Bury School, Biggleswade.
Wright, J. M.	St. John's Roy. Latin S., Buckingham.
Baker, J. L.	Halstead Grammar School.
Donald, J. A.	Private tuition.
Hamer, O. D.	Lucton School, Herefordshire.
Holdcroft, G. F.	Penketh Friends' S., nr. Warrington.
[1]Lewis, H. G.	Trowbridge High School.
Nunn, P. W.	Theobald's Gram. S., Needham Mkt.
Read, P.	Devonport High School.
Solman, H.	Tiverton Middle School.
Swallow, N. H.	Ashville College, Harrogate.
Thomas, L.	Christ's College, Blackheath.
Wright, W.	High School for Boys, Bolton.
[1]Barry, T.	St. Francis of Sales School, Walmer.
Bedford, G.	Devonport High School.
Byass, E. B.	Epsom College.
Coish, H. J.	Private tuition.
Dickinson, C. M.	Congregational S., Caterham Valley.
Doddemeade, C. S.	Loughton School, Essex.
Drinkwater, T. E.	Wellington College, Salop.
Gardiner, G. S.	Barton School, Wisbech.
Hall, R. A. N.	Lucton School, Herefordshire.
Harrison, D. R. D.	Burnley Grammar School.
Jethiji.	Highbury House S., St. Leonards.
[1]Nicholls, F.	Edward VI., Gram. S., Southampton.
Reid, T.	Stoke Newington Grammar School.
Smith, P. E.	Brighton Grammar School.
[1]Thomas, J. B.	Gelligaer County School.
Walters, J. G.	Gelligaer County School.
Wilson, L. B.	Longsight Grammar S., Manchester.
Wright, W. P.	Rawlin's S., Quorn, Loughborough.
Anthonisz, E. G.	Private tuition.
Corley, F. S.	Finsbury Pk. College, Green Lanes, N.
[1]Davies, J. R.	Higher Grade School, Merthyr Tydfil.
Harding, C. H.	Private tuition.
Hudson, J. F.	The Crossley and Porter S., Halifax.
Taylor, J. H.	Private tuition.
Ward, A.	St. Augustine's Gram. S., Dewsbury.
Willett, E. W.	Sussex College, Eastbourne.
Attenborough, A. G.	Private tuition.
Bonnor C. E.	Clyde House, Hereford.
Clarke, R. H.	Middleton School, Bognor.
Corsbie, L. A.	Edward VI. Middle School, Norwich.
Daly, R. M.	Prætoria House School, Folkestone.
De Gruchy, W. G.	Mercers' School, E.C.
Dunbar, J. E.	Marlborough Coll., Tue Brook, L'pool.
Evans, W. D.	Devonport High School.
Hall, G. H. L.	Halstead Grammar School.
Hall, S.	Modern School, Woking.
Heath, G. F.	Marlborough Coll., Tue Brook, L'pool.
Holgate, J. R.	Burnley Grammar School.
Knight, A. A.	Grammar School, Newton Abbot.
Lamplough, W. H.	Private tuition.
Lang, P.	St. Augustine's Gram. S., Dewsbury.
Thornton, E.	Private tuition.
Tizard, H. T.	Enfield House, Surbiton Hill.
Bowyer, H. H.	Bourne College, Birmingham.
Clayton, A. J.	Arlington Park College, Chiswick.
Dickman, H. C.	Bexley Heath College, Kent.
Elder, W. A.	Kendrick Boys' School, Reading.
Frape, R. D.	Burgess Hill High School, Sussex.
[1]George, B. I.	Milton Abbas School, Blandford.
Higgins, G. J.	Winchester House, Redland, Bristol.
Morrow, A. W.	Kingswood School, Lansdown, Bath.
Owen, T.	Private tuition.
Paine, R. *bk.*	Private tuition.
Palmer, E. H.	Kendrick Boys' School, Reading.
Parker, T. A. *d.*	The High School, Romford.
[1]Tadman, S.	Springfield Mount School, Leeds.
Travis, S.	Read's School, Drax, Selby.
Walker, G. E.	Holt House School, Cheshunt.
Watson, P. H. S.	High School, Francis Street, Leeds.
Adams, J.	The School, Eaton Socon.
Bagnall, R.	Prætoria House School, Folkestone.
Beatty, C. A. J.	Elveden, Clifton, Bristol.
Drysdale, P.	Belsize School, South Hampstead.
French, A. M.	Brunswick House, Maidstone.
[1]Hallett, L. F. *d.*	Trowbridge High School.
[1]Hamer, N. S.	High School for Boys, Bolton.
[1]Hooson, G. S.	Bourne College, Birmingham.
Humphrys, J. S. L.	St. Catherine's Coll., Langland Bay.

BOYS, SECOND CLASS—*Continued.*

Jackson, F. G.	Wellington College, Salop.
May, C. W.	Dr. Morgan's School, Bridgwater.
McConnochie, N.	The Crossley and Porter S., Halifax.
Myer, L.	University College School, W.C.
Porteous, E. R.	New College, Margate.
Pugh, J. J.	Lucton School, Herefordshire.
Rees, L. B. I.	The Grammar School, Chepstow.
Reynell, F. C.	Boys' Coll. & High S., Southampton.
[1]Reynolds, E.	Broomwood, Clapham Common, S.W.
Riley, C. E. E.	Guildhall Mid.S., Bury St. Edmunds.
Sladen, C. A. L. *sh.*	Private tuition.
Waddell, J.	Mercers' School, E.C.
Adams, A. E.	Devonport High School.
Adamson, J.	High School for Boys, Bolton.
Angwin, J. T.	Emwell House School, Warminster.
Carter, S. D.	High School, Finchley Road, N.W.
Davies, J.	Lucton School, Herefordshire.
Dunfield, J. C. W.	Forest School, Walthamstow.
Edmonds, F. R.	Epsom College.
Jackson, H. G.	Earls Colne Grammar School, Essex.
Jones, B. N.	Gelligaer County School.
McMillan, A. N.	The School, Eaton Socon.
Morgan, E.	Tanyrallt, Pontardawe.
Neate, L. S.	Wilsford House School, Devizes.
[1]Phillips, C. F. *sh.*	Gelligaer County School.
Pollard, G. F.	Blue Coat School, Reading.
Roberts, J. E.	Private tuition.
Rodgers, P. H.	Elmfield College, York.
Rose, A. H.	St. Martin's Gram. S., Scarborough.
Sumner, H L.	Kingswood School, Lansdowu, Bath.
Swinyard, T. H.	Stanley House, Margate.
Thomason, F.	Banbury School, Oxon.
Turner, F. McK.	Selhurst Park Coll., S.Norwood, S.E.
Turner, H. A.	Southeud House, Cheltenham.
Allison, V. R.	Easingwold Grammar School.
Clogg, E. H.	Kingswood School, Lansdown, Bath.
Cooper, T. T.	Abbey House School, Tewkesbury.
Duncan, E. H.	Hoscote House School, West Kirby.
Farrants, B. H.	Earls Colne Grammar School, Essex.
Ganner, D.	Bourne College, Birmingham.
[1]Harris, A. E.	Barton School, Lewes.
Harris, A. J.	Polytechnic Intermediate School, W.
Howells, H. T.	Gelligaer County School.
Kilroe, L.	Ilkley College, Ilkley, Yorks.
Malcolm, G. J.	Enfield House, Surbiton Hill.
Martin, E. S.	Mercers' School, E.C.
Nix, S.	Dover College.
Page, H.	St. Kenelm's College, Cowley.
[1]Pickersgill, F. L.	Argyle House School, Sunderland.
Pimm, G. B. R.	Exmouth College.
Pooley, C. A.	Private tuition.
Shepard, G. A.	Earl's Colne Grammar School, Essex.
Sheppard, E. J.	Private tuition.
Skinner, W. J.	Modern School, Maidenhead.
Blundell, F. H.	High School for Boys, Boltou.
Catlow, J. H.	Elmfield College, York.
Dewhurst, B. S.	University School, Southport.
Elce, W. H.	Private tuition.
Fraser, J. W. *sh.*	Lyttelton Grammar S., Gt. Malvern.
[1]Heard, E.	St. John's College, Green Lanes, N.
Hill, H. S.	Winchester House, Redland, Bristol.
Innes, W. H.	The School, Gunnersbury.
Lee, E.	11 Scarisbrick Street, Southport.
Little, A. W. R.	Trowbridge High School.
Littlewood, R.W. S.	Private tuition.
Maden, J. E.	NewchurchGrammarS., Manchester.
Marris, H. C.	Kingswood School, Lansdown, Bath.
[1]Whitamore, V. N.	Tettenhall College, Wolverhampton.
Wood, F. H.	Harrogate College.
Buckmaster, W. B.	Grosvenor College, Luton.
Clark, W.	Claremont College, Blackpool.
Davies, F. S. *ch.*	St. Paul's School, West Kensington.
Deakin, G. W.	Private tuition.
Glassborow, M.	Woodgrange House, Forest Gate, E.
Goddard, H.	Private tuition.
Godfrey, W. H.	St. Paul's School, West Kensington.
Gregory, R.	Polytechnic Intermediate School, W.
Humphreys, S.	Hart House S., Burnham, Somerset.
[1]Iles, H. W.	Collegiate School, Fairford, Glos.
Jones, G. S. W.	Private tuition.
Lang, W. O.	Blundell's School, Tiverton.
Lennox, W. J.	The College, Weston-super-Mare.
Lewis, W. S.	Gelligaer County School.
Looker, C. M.	Lancaster College, West Norwood.
Martin, A. T.	Oxford House School, St. Albans.
Nash, W. P.	Brighton Grammar School.
Nowell, A. S.	Private tuition.
Relton, C. D.	Sandyford Acad., Newcastle-on-T.
Robertshaw, B.	Burnley Grammar School.
Rowe, C. A.	The High S., Weston-super-Mare.
Staple, R. W.	Hart House S., Burnham, Somerset.
Vickers, S.	Paignton School, Devon.
Bott, R. H.	Barton School, Wisbech.
Butler, G. F.	Collegiate School, Bridgwater.
Eichert, F. W. *ger.*	Preliminary Medical College, E.C.
Hufton, A.	Farnworth Grammar S., Widnes.
Hughes, R. B. *sh.*	Grammar School, Altrincham.
Jones, W. H.	St. Paul's School, West Kensiugton
Lomas, G. E.	Colne Rd. Middle Class S., Burnley.
Mayhew, C.	Earls Colne Grammar School, Essex.
Scott-Foster, T.	Portsmouth Grammar School.
Smallwood, A.	Kingswood S., Lansdown, Bath.
[1]Stean, E.	High School, Penzance.
Tanner, H. G.	Portway High School, Bath.
[1]Tate, J. H. *d.*	Upton School, Slough.
Tidy, O.	Middleton School, Bognor.
Wells, A.	Ashley House School, Worksop.
Beal, C. E. L.	Loughton School, Essex.
Blunt, C. F.	Oakham School.
Brooke, S. W.	Stanley House, Margate.
Cock, F.	Private tuition.
[1]Cole, P.	Yalding Grammar School.
Cooper, F. G.	Cowley College, New Barnet.
Hart, A. J. C.	Ongar Grammar School.
Loggin, G. N.	Bexley Heath College, Kent.
[1]Long, G. D.	Victoria College, Hornsey Rise, N.
Lowther, F. H.	Easingwold Grammar School.
Oxley, S. F.	Bexley Heath College, Kent.
Reynolds, J. H.	Gillingham Grammar Sceool.

SECOND CLASS.—2ND DIVISION.

Bernays, C. M.	Epsom College.
Birkett, H. J.	Boys'Coll.andHigh S., Southampton
Breton, W. K. D.	Portsmouth Grammar School.
Brown, H. E. M.	Manor House, Clapham.
Bullock, J.	Oakes Institute, Walton, Liverpool.
Chapman, J. H.	Winchester House, Redland, Bristol.
Davidson, A. W.	Vermont College, Clapton.
Dene, R. T.	Mercers' School, E.C.
Evans, W. G.	Private tuition.
Hampton, H. B.	Borden School, Sittingbourne.
Magowan, P. D. F.	Emanuel School, Wandsworth Com.
Marshall, J. E.	The Crossley & Porter S., Halifax.
Shoveller, J. S.	Claremont School, Surbiton.
Smith, C. H.	Dean Close MemorialS., Cheltenham.
[1]Atherton, P. W.	Private tuition.
Boultwood, G. J. S.	Elm House, Wareham.
Hunter, W.	Brighton Grammar School.
Joy, F. W.	High Park Hall Coll., Ryde, I.W.
Nursey, E. W. J.	The College, Lowestoft.
Sladen, A. G. L.	Private tuition.
Still, E. J.	Emwell House School, Warminster.
Whiteaway, J. S. L.	Private tuition.
Wilson, W. F.	Borden School, Sittingbourne.
Aldersmith, R. A.	Pitman's Metropolitan School, W.C.
Baldwin, R.	Farnworth Grammar S., Widues.
Beavan, R. W.	Ebor School, Bexhill.
[1]Brooker, P. H.	Brunswick House, Maidstone.
Carlile, C.	St. Paul's School, West Kensiugton.
Cook, H. J.	Finsbury ParkColl., Green Lanes, N.
Fox, C. L.	Brighton Grammar School.
Hocken, J.	Devonport High School.
Hunt, W. F.	Chudleigh Gram. S., South Devon.
Lynn, B. S.	Private tuition.
McRae, R. G.	Polytechnic Intermediate School, W.
[1]Norris, E. C. M.	Gillingham Grammar School.
Packer, S. R.	Eversley House School, Stamford.
Street, C. E.	York House School, Reading.
[1]Todd, P. D.	Woodgrange House, Forest Gate, E.
[1]Turner, A.	The High School, Brentwood.
[1]West, S. H.	VictoriaHall, OxfordRd., Manchester
Wilson, W. D.	United Westminster Schools, S.W.
Yorke, G.	The School, Gunnersbury.
Barnes, F.	Kendrick Boys' School, Reading.
Breed, J. B.	Elmfield College, York.
Capon, S. M.	Edward VI. Middle School, Norwich.
Gambles, J.	People's College, Nottingham.
Goodman, H. T. *ms.*	Halesowen Grammar School.
Harris, C. B.	Dagmar House School, Hatfield.
Hill, P. C. A. B.	Grammar School, Streatham, S.W.
[1]Holt, B. St. C.	Halesowen Grammar School.
Johnson, F. L.	Edward VI. Middle School, Norwich.
Johnston, A. K.	King's College, Wimbledon
Lander, R. S.	Kensington Park College, W
Phillips, R. H.	The Abbey School, Penzance.
Shield, H. S.	Rolandseck School, Ealing.
White, G. E.	Clapham Collegiate School, S.W.
Whitehouse, E.	Wellington College, Salop.
Amsden, E. H.	Mercers' School, E.C.
Deverell, F.	Mercers' School, E.C.
Douglas, W. M.	Harringay School, Green Lanes, N
Fishwick, S.	Herne House School, Margate.
Jones, R. N.	Wellington College, Salop.
Le Clercq, C. B.	Oxenford House School, Jersey.
Moon, M. R.	Malvern College, Malvern.
Pooley, W. R.	Dover College.
Radford, L.	Edward VI. Middle School, Norwich
Sawyer, E. F. H.	Brighton Grammar School.
Spengler, A. J. P.	Anerley College, Anerley, S.E.
Spraggon, M.	Elmfield College, York.
Stephenson, A.	Froebel Ho. S., Stoke, Devonport.
Hayman, S. C.	Elveden, Clifton, Bristol.
[1]Hunt, H. A.	Rhodes House School, Manchester.
Hurst, W. E.	Private tuition.
Jackson, J. C.	Goole Grammar School.
Johnston, A. E.	Sutton Park School, Surrey.
Maberly, F. H.	Private tuition.
Reeve, H. D.	Ashford Grammar School, Kent.
Richardson, A.H. S.	Private tuition.
Sara, P.	Trevu Academy, Camborne.
Smith, L.	Oakes Institute, Walton, Liverpool.
Stansfield, F. J.	Private tuition.
Thoms, A. E.	New Brighton High School.
Webster, A.	Midhurst Grammar School.
Andrew, S. E.	Private tuition.
Atkinson, A. M.	Ashford Grammar School, Kent.
Baker, J. S.	Sidcot School, Winscombe, Som.
Barton, F. W.	Barton School, Wisbech.
Boden, A. P.	Mercers' School, E.C.
Budd, A.	West Cliff House, Dawlish.
Burns, P. E.	Private tuition.
Corfield, C.	Private tuition.
Date, G.	Trowbridge High School.
Davis, A. R.	Collegiate School, Bridgwater.
Dunford, H.	Newcastle Modern School.
Dyer, P. J.	Guildhall Mid. S., Bury St. Edmunds.
Garton, R.	Farnworth Grammar S., Widnes.
Hardy, C. J. S.	The Grammar School, Rye.
Marriott, P. V.	Grove House School, Highgate.
[1]Midgley, R.	The Grammar School, Eccles.
Oakley, D. B.	Castle Hill School, Ealing.
Potter, A. J.	Stoke Newington Grammar School.
Shaw-Liepmann, G. P.	St. Paul's S., West Kensington.
Treadwell, G. H.	Grafton House School, Manchester.
Waltham, W. H.	Winchester House, Redland, Bristol.
White, H.	Harrogate College.
Bennett, N	Wilsford House School, Devizes.
Benney, W. G.	St. Margaret's College, Lowestoft.
Board, L. J.	Dr. Morgau's School, Bridgwater.
Bridges, R. H.	Blundell's School, Tiverton.
Brown, L. F.	Stoke Newington Grammar School.
Clegg, J.	Read's School, Drax, Selby.
Easton, L. J.	Tudor Hall, Hawkhurst.
Forbes, A. H.	Warwick House School, Southsea.
Friston, S. L.	Stanley House, Margate.
Graham, G.	St. Paul's School, West Kensington.
Kelland, P. J. L.	Truro College.
Kilner, H.	Thorne Grammar School, Doncaster.
Lloyd, H. S. D.	North London Collegiate Sch., N.W.
Martin, E.	Almondbury Grammar School.
Morton, H.	The Crossley & Porter S. Halifax.
Patterson, P. M.	High School for Boys, Bolton.
Ricketts, L.	Dane Hill School, Margate.
Roden, G. W.	Wellington College, Salop.
Smith, H.	10 Houusfield Road, Sheffield.
Smithson, R. J.	Gosberton Hall, Spalding.
Stephens, O.	Devonport High School.
Street, E. G.	Private tuition.
Tibbetts, T. J.	British School, Stony Stratford.
Archer, R.	St. Leonard's Collegiate School.
Barter, F. A.	Nelson College, Blackheath.
[1]Beacham, J. W.	Elmfield College, York.
Beaumont, P.	Godwynehurst, Dover.
[1]Bennett, E. J.	Private tuition.
Bonner, R. J.	Grammar School, Newton Abbot.
Carré, C. L.	Mercers' School, E.C.
Chown, A. S.	Churcher's College, Petersfield.
Dixon, A. L.	Wellington College, Salop.
Fleming, R. J.	Polytechnic Intermediate School, W.
Fletcher, W. J.	Elm Bank School, Nottingham.
Francis, T. E.	Gelligaer County School.
Gillet, J. A.	Private tuition.
Harrison, S. H.	Brunswick House, Maidstone.
[1]Hartley, C. C.	Elmfield College, York.
Kirby, E.	Devonport High School.
Leyland, J. K.	Hipperholme Grammar School.
Morgan, F. W.	Sydney House College, Stockwell.
Owles, T. R.	Wellington College, Salop.
Stevens, F. T.	Edward VI. Middle School, Norwich.
Twort, F. J.	Modern School, Woking.
Twort, J. L.	Private tuition.
Vaudin, R. I.	St. James' Collegiate S., Jersey.
Widdowson, T. W.	Private tuition.
Barter, H.	Lancaster College, West Norwood.
Bateman, G. S.	Malden College, New Malden.
Bedwell, E. J.	Saham College, Watton, Norfolk.
Christal, H.	Argyle House School, Sunderland.
Cockram, E.	Collegiate School, Lapford.
Clarke, T. W.	Clyde House, Hereford.
Damsell, H. Y.	MarlboroughColl. Tue Brook, L'pool.
Faulkner, P. R.	Private tuition.
Gettings, C. K.	Private tuition.
Gomme, A. A.	Mercers' School, E.C.
Harrison, E.	People's College, Nottingham.
Jenkinson, J. M.	MontgomeryColl., Sharrow, Sheffield
Lukey, C. X.	Godwynehurst, Dover.
Mackrell, A.	Epsom College.
Matthews, W.	Devonport High School.
Nightingale, W. H.	Wellington College, Salop.
Phillips, C. H.	Loughton School, Essex.
Polletfen, G. B.	Birkenhead Institute.
[1]Pratt, A. F. C.	Henley School, Henley-on-Thames.
Saint, E. T.	Ivel Bury School, Biggleswade.
Sansom, H. C.	Burgess Hill High School, Sussex.
Stauford, H. W.	Castle Hill School, Ealing.
Truscott, S.	Devouport High School.
Wood, S. H.	Stanley House, Margate.
Ashtou, C.	Clapham Collegiate School, S.W.
Bale, H. L.	Chariug Cross S., St. Helen's, Jersey.
Capps, J. S.	The College, Lowestoft.
Cook, W.	Private tuition.
Cripps, J. H.	Claremont House, St. Albaus.
Frisby, V. A.	Tiverton Middle Schools.
Henderson, M. A.	Kingswood School, Lansdown, Bath.
Hesse, H. W.	St. Paul's School, West Kensington.
Huggins, B. T.	Newton College, S. Devon.
Hughes, A. F.	Ashford Grammar School, Kcut.
Lavers, H. H.	Royal Grammar S., High Wycombe.
[1]Lewis, J. C.	Gelligaer County School.
Lockyer, E. C.	Handel College, Southampton.
Mauger, C.	Oxenford House School, Jersey.
Medlicott, R. F. C	Pannal Ash College, Harrogate.
Merson, F. M.	Collegiate School, Southmolton.
Moule, C. G.	St. Peter's School, Weston-s.-Mare.
Oates, P. T.	Spencer College, Wimbledon.
Parkinson, J. H.	Ashville College, Harrogate.
Rice, W.	Stanley House, Margate.
Richardson, A.	East Bridgford College.
Rucklidge, W. A.	The Crossley and Porter S., Halifax.
Schooling, C. M.	University School, Stroud Green, N.
Bowsher, W.	Wilsford House School, Devizes.
Clowes, G. M.	King's College School, Strand, W.C.
Dawson, W.	Longsight Grammar S., Manchester.
Drury-Lowe, V. F.	Preliminary Medical College, E.C.
Hannan, L. J. B.	Mercers' School, E.C.
Hill, H. A.	Rhianva College, Hunstanton.
Kemsley, D. W.	Loughton School, Essex.
Macdonald, W. R.	Private tuition.
Marshall, O.	Private tuition.
McDonald, A.	Birkenhead Institute.
Mitchell, R.	Swansea Grammar School.
Neal, G. K. B.	Halbrake S., Wandsworth Common.
Odam, G.	Devonport High School.
Stratton, P. S. *sh.*	St.John'sRoy.LatinS., Buckingham.

BOYS, SECOND CLASS—*Continued.*

Stretton, J. W.	New Hall Coll., Sutton Coldfield.
[1]Trentham, G. P.	Bourne College, Birmingham.
Whitby, C. H.	Kingston School, Yeovil.
Alexandre, A. P.	Charing Cross S., St. Helier's, Jersey.
Allan, G. W.	St. Martin's Gram. S., Scarborough.
Baird, R. C.	Woodgrange House, Forest Gate, E.
Brogden, R. J.	Private tuition.
Cates, H. J.	Ashford Grammar School, Kent.
Cox, S. W. C.	Gillingham Grammar School.
Fowell, E. T.	Mercers' School, E.C.
French, H. W.	Elmfield College, York.
Goodchild, E. M.	Claremont House, St. Albans.
Goulding, V.	Brighton Grammar School.
Gunton, H. E.	Edward VI. Middle School, Norwich.
Jeffery, W. T.	Cheveley Hall, Plymouth.
Parks, J. F. J.	Eastbourne Old School.
Rees, F. L.	Gelligaer County School.
Relf, E. W.	Brunswick House, Maidstone.
Riches, W.	Grammar School, Leek.
Robson, S.	Newcastle Modern School.
[1]Seeley, F. H.	St. Margaret's College, Lowestoft.
Stein, C.	Central Foundation School, E.C.
Stopher, R. H.	Ashford Grammar School, Kent.
Trimnell, L. C.	Heath Brow S., Hemel Hempstead.
Waters, J.	People's College, Nottingham.
Browning, S. C.	Winchester House, Redland, Bristol.
Chambers, H.	Percy House School, Deal.
Cockrill, R. J.	Edward VI. Middle School, Norwich.
Day, F. G.	Wakefield Grammar School.
Flawn, C. P.	Ashford Grammar School, Kent.
[1]Harper, A. H.	Lancing College.
Hinee, F. A.	Wellington College, Salop.
[1]Neilson, H. R.	*d.* St. Catherine's Coll., Langland Bay.
Nicholson, E.	Private tuition.
Parsons, F. C.	Guildhall Mid. S., Bury St. Edmunds.
Rutter, F. R.	Grammar School, Streatham, S.W.
Smith, E. W.	Emwell House School, Warminster.
Tessier, J. F.	Mercers' School, E.C.
[1]Welton, W. S.	Castle Hill School, Ealing.
Willard, H.	Ellesmere College, Eastbourne.
Williamson, J. R.	The Choir School, Edinburgh.
Abell, F. H.	Grammar School, Belper.
Cobley, G. H.	Holt House School, Cheshunt.
Cooper, J.	The College, Lowestoft.
Dunstan, J. B.	Montrose College, Brixton Hill.
Friedeburg, C. G.	Spencer College, Wimbledon.
Gabriel, P.	Godwynehurst, Dover.
Gilbertson, A. J.	Argyle House School, Sunderland.
Hawkins, C. T.	Gelligaer County School.
Holland, H. E.	Salvandy Terrace School, Jersey.
Jeans, H. M.	Mercers' School, E.C.
Kirkby, J. S.	Leeds Church Middle Class School.
March, A. S.	Trowbridge High School.
Matthews, H. W.	Exmouth College.
Moss, W. G.	St. George's College, Wimbledon.
Taylor, T. H.	The Huish School, Taunton.
Vetch, R.	Dane Hill School, Margate.
Wallace, A. E.	The College, Weston-super-Mare.
Arnould, A. L.	St. Paul's School, West Kensington.
Avis, F. M.	Edward VI. Middle School, Norwich.
Bridges, D.	Private tuition.
Castle, H.	Ashley House School, Worksop.
Cooper, N. H.	Ashford Grammar School, Kent.
Corlett, L.	Ramsey Grammar S., Isle of Man.
Daniell, W. R.	Ilfracombe College.
Darker, W. J.	New Hall College, Sutton Coldfield.
Edwards, F. H.	Birkenhead Institute.
Harris, W. M.	Clyde House, Hereford.
Heald, P. B.	Birkenhead Institute.
Irvine, J. P.	Private tuition.
[1]Jones, E. T. S.	Private tuition.
Jones, H. D.	Private tuition.
Jones, M. E.	Dr. Morgan's School, Bridgwater.
Kennard, R. S.	Brunswick House, Maidstone.
Mitchell, A. R.	Manor House, Havant.
Norton, C. D.	Winchester House, Redland, Bristol.
Rowe, V.	Trevu Academy, Camborne.
Scargill, H. B.	St. Augustine's Gram. S., Dewsbury.
Wright, F. W.	Brighton Grammar School.
[1]Baker, P.	Ealing Dean College, W.
Cox, W. J.	New Hall Coll., Sutton Coldfield.
Creighton, H. T.	The High School, Brentwood.
Dolan, E.	Private tuition.
Green, S.	Brunswick House, Maidstone.
[1]Gringley, A. W. G.	Goole Grammar School.
Hadwen, J.	Dr. Morgan's School, Bridgwater.
Kirk, W.	The Crossley and Porter S., Halifax.
Morris, R. J.	Cambridge House School, Wigan.
Reavell, J.	Boys' Collegiate School, Aldershot.
Smith, F.	Hart House S., Burnham, Somerset.
Taylor, F. O.	Modern School, Woking.
Thomas, A. R.	Kingswood S., Lansdown, Bath.
Watson, F. W.	People's College, Nottingham.
Williamson, A. C.	Grosvenor College, Luton.
[1]Cox, R. E.	Rhodes House School, Manchester.
Crawshaw, H. M.	Oakes Institute, Walton, Liverpool.
Davies, E. S.	Private tuition.
Doo, H.	36 Warrington Crescent, W.
[1]Ferguson, R. L.	The Grammar School, Eccles.
Gleed, S. R.	Mercers' School, E.C.
Godson, E. H.	Private tuition.
Griffiths, E. R.	Latymer Upper S., Hammersmith.
Jensen, C. O.	Lancaster College, West Norwood.
Lister, E. H. G.	Willow House College, Walsall.
Pennington, C.	Private tuition.
Petty, W.	Ellesmere School, Harrogate.
Pickering, A. C.	The College, Leamington.
Sapp, G. S. H.	*d.* Warwick House School, Southsea.
Adam, G. H.	Marlborough College.
Bishop, S. T.	West Kent Grammar S., Brockley.
Brown, H. G.	Eastbourne Old School.
Dibdin, R. A.	Herne House School, Margate.
Gibson, J.	Anerley College, Anerley, S.E.
Harris, H. A.	The School, Gunnersbury.
[1]Hill. F. C.	Halesowen Grammar School.
Hogge, L. R.	Private tuition.
[1]Kenny, F. B.	Cavendish College, Southampton.
Lancefield, C. A.	St. George's College, Wimbledon.
Lewis, E. D.	Gelligaer County School.
Lloyd, M. A.	Private tuition.
Ormisher, T.	Penketh Friends' S., near Warrington.
Patterson, W. G.	Tiverton Middle Schools.
Russel, G. G.	Wellington College, Salop.
Snoad, F. G.	Private tuition.
Thorp, C. E.	Burnley Grammar School.
Wheatley, E. J.	Polytechnic Intermediate School, W.
Carter, F.	Private tuition.
[1]Chase, G. H.	Lucton School, Herefordshire.
Henderson, J. D.	Henley House S., Mortimer Rd., N.W.
[1]Ireland, N. A.	Cavendish College, Southampton.
Johns, A.	Tanyrallt, Pontardawe.
Lamb, H. J.	Devonport High School.
Macdonald, F. J.	Birkenhead Institute.
Martin, E. C.	Ellesmere College, Eastbourne.
Nowell, R. B.	Private tuition.
Ollerhead, T. H.	Newton College, South Devon.
Parr, R. G.	Battersea Polytechnic, S.W.
Piper, S. A.	Brighton Grammar School.
Procter, J.	West Kent Grammar S., Brockley.
Ransford, L.	Barrowmount, Folkestone.
Sherratt, A. E.	Private tuition.
Stedman, P. H.	Private tuition.
Turner, W. A.	The High School, Brentwood.
Williams-Jones, F. M.	Milton College, Ullesthorpe.
Allsop, J. C.	The Choir School, Edinburgh.
Ainscow, W.	Hindley Grammar School, Wigan.
Bienemann, E. C.	Private tuition.
Briers, F.	Dagnar House School, Hatfield.
Charnock, E.	Hindley Grammar School, Wigan.
Colman, F. E.	Queen's Coll., Streatham Hill, S.W.
Gibbons, F. H.	Collegiate School, Lapford.
Haddon, P.	Hillsborough S., Tunbridge Wells.
Hartland, P. A.	Private tuition.
Huggins, H. C.	North London Coll. School, N.W.
Lund, J. E. P.	Grammar School, Worthing.
Merrick, F.	Victoria S., Jesmond, Newcastle-on-T
Paget, H. P.	Trowbridge High School.
Partridge, C. S.	Halesowen Grammar School.
Purrott, S. G.	Claremont House, St. Albans.
[1]Richardson, H. J.	St. Leonards Collegiate School.
Robinson, W. H.	Private tuition.
Rose, F. G.	Private tuition.
Smith, W. L.	Handel College, Southampton.
Tracy, N.	Private tuition.
Wall, J. M.	The College, Leamington.
Archer, A. B.	Edward VI. Middle School, Norwich.
Bott, S.	Private tuition.
Brothers, A. J.	Modern School, Woking.
Caister, G.	Claremont House, St. Albans.
Edmonson, J.	Burnley Grammar School.
Gregory, A. D.	Dr. Morgan's School, Bridgwater.
Hammermeister, C.	B. Heston House School, Hounslow.
Harrison, A. W.	The Crossley and Porter S., Halifax.
Harry, W.	Borden School, Sittingbourne.
Holding, L. A.	Private tuition.
Hunt, E. C.	Earl's Colne Grammar School, Essex.
Howard, J.	The Grammar School, Hyde.
James, A. W.	Hill House, Folkestone.
Mills, H. A.	Portway High School, Bath.
Ray, P. M.	Prætoria House School, Folkestone.
Williamson, G. A.	Farnworth Grammar S., Lancs.
Baker, R. S.	Charing Cross S., St. Helier's, Jersey.
Banbury, F. H.	Harleigh House School, Bodmin.
Braithwaite, T. M.	Henley House S., Mortimer Rd., N.W.
Burns, F. J.	Devonport High School.
Byatt, A. E.	Midhurst Grammar School.
Crossley, L.	The Crossley and Porter S., Halifax.
[1]Gilbart, J. W. H.	Grammar S., Camelford, Cornwall.
Hall, J. C. G.	St. Paul's School, West Kensington.
Hill. A.	Private tuition.
Jewitt, J.	Collegiate School, Grimsby.
Killick, J. S.	Private tuition.
Lower, R. A.	Stoke Newington Grammar School.
Merrett, H. C.	Mercers' School, E.C.
Nash, C. C.	North London Collegiate S., N.W.
Reid, H.	Grafton House School, Manchester.
Robinson, T. O.	Deytheur Grammar S., Oswestry.
Scott, H. M.	Private tuition.
Sotham, H. H.	Towcester School.
Warner, A. H.	Longton Endowed School, Staffs.
Beagarie, G. A.	Gillingham Grammar School.
Berry, A. G.	Edward VI. Middle School, Norwich.
Bonnor, G. W.	Clyde House, Hereford.
Foster, J. V.	Arden House S., Henley-in-Arden.
Greensted, H. T.	E. Anglian S., Bury St. Edmunds.
Groves, S. J.	Beechen Cliff Coll., Peckham Rye.
Hill, T. D.	Ongar Grammar School.
Johnson, F. C.	Theobald's Gram. S., Needham Mkt.
Norris, R. C.	Wilton Grove School, Taunton.
Richards, A. F.	Winchester House, Redland, Bristol.
[1]Sankey, T. A.	The Grammar School, Blackpool.
Sargent, R. J.	Preliminary Medical College, E.C.
Saunders, A. G.	Wilton Grove School, Taunton.
Seymour, W.	Newcastle Modern School.
Spears, R.	Grove House School, Highgate.
Stannard, H. E.	Winchester House High S., Yarmouth
Thompson, E. H. B.	Clarence School, Weston-s.-Mare.
Victor, G. H.	The Abbey School, Penzance.
Adams, A. S.	Private tuition.
Austen, V. B.	Selhurst Pk. Coll., S. Norwood, S.E.
Cook, C. W.	East Cornwall College, Liskeard.
Griffin, J. D.	Bourne College, Birmingham.
Gurteen, C. S.	Aseham College, Clacton-on-Sea.
Haigh, A. R.	The College, Churwell, Leeds.
Haly, E.	Queen's Coll., Streatham Hill, S.W.
Hark, J. R.	Hindley Grammar School, Wigan.
Hick, P.	Highfield School, Rock Ferry.
Higson, A. J.	Private tuition.
Hopkins, J.	Collegiate School, Bridgwater.
Kerin, G. W.	North London Collegiate S., N.W.
McConnell, W.	Grafton House School, Manchester.
Nixon, F. J.	Park School, Wood Green, N.
Paddon, R.	Ealing Dean College, W.
Read, H.	Anerley College, Anerley, S.E.
Rolfe, H. A. S.	Woodgrange House, Forest Gate, E.
Rogers, H. G.	Gillingham Grammar School.
Savage, G. H.	Bourne College, Birmingham
Smith, F. G.	St. Paul's School, West Kensington.
Vane, H. B.	West Cliff School, Ramsgate.
Wallis, W. H. St. J.	St. Catherine's, Littlehampton.
Allen, F. C.	*sh.* Private tuition.
Baldwin, W. F.	Lucton School, Herefordshire.
Carlisle, F.	Devonport High School.
Dignum, O. H.	Private tuition.
Dixon, H. S.	Burnley Grammar School.
Glover, S. G.	North London Collegiate S., N.W.
Grinstead, P. W.	Brookleigh House, Barrowden.
Hardy, E. W. D.	Brinklea, Bournemouth.
Heagerty, W. T.	New College, Margate.
Kennett, A. M.	Raleigh College, Brixton, S.W.
Page, J. H. Le B.	North Grove School, Southsea.
Percy, J.	St. Martin's Gram. S., Scarborough.
Pettman, W.	Eton House, Anerley Road, S.E.
Ray, G. E. H.	Ardingly Coll., Hayward's Heath.
Richards, A. H.	Stoke Newington Grammar School.
Rowe, A. C.	Emanuel S., Wandsworth Common.
Rowe, H. R.	Private tuition.
Shipman, A.	Ilkley College, Ilkley, Yorks.
Vallance, G. A.	Cheltenham Modern School.
Varwell, R. P.	Sidcot School, Winscombe, Som.
Watson, P. A.	Collegiate School, Bishop Auckland.
Watson, T.	Farnworth Grammar S., Widnes.
Arnold, P. A.	Park School, Wood Green, N.
Baird, H. F.	Guildhall Mid. S., Bury St. Edmunds.
Battersby, R.	The Crossley and Porter S., Halifax.
Benbow, L. J.	Anerley College, Anerley, S.E.
Cole, F. W.	Gillingham Grammar School.
Davies, N.	Birkenhead Institute.
Fennings, H.	Salway College, Leyton.
Gauntlett, H. L.	Hurst Lodge School, East Putney.
Gilling, W. A.	Thirsk High School.
[1]Hugh, A.	East Cornwall College, Liskeard.
Longstaff, W. C.	Newcastle Modern School.
Owen, A. M.	Kingswood School, Lansdown, Bath.
Sampson, E. H. S.	Middleton School, Bognor.
Wilson, A. H.	Ascham College, Clacton-on-Sea.
Barnes, R. S.	New College, Margate.
Cheeseright, W. M.	Marlowes High S., Hemel Hempstead.
[1]James, C. G.	Cavendish College, Southamptou.
Le Broeq, F.	Oakwood House School, Jersey.
Parsons, G.	New Hall College, Sutton Coldfield.
Penfold, A. J.	Emanuel S., Wandsworth Common.
Relton, E. A.	Sandyford Acad., Newcastle-on-T.
[1]Robinson, F. O.	Farnworth Grammar S., Widnes.
Rogers, W.	Gelligaer County School.
Steele, G. L.	St. Peter's School, Weston-s.-Mare.
Stewart. W. L.	Christ's College, Blackheath.
Stroud, J. E. C.	People's College, Nottingham.
Wild, A.	Devonport High School.
Band, G. B.	Birkenhead Institute.
Chambers, S. H.	The Crossley and Porter S., Halifax.
Farwell, E.	Private tuition.
Hardeastle, S. B.	Taunton House School, Brighton.
Harding, C. de V.	Percy House School, Deal.
Hayman, G. A.	County School, Wellington, Som.
Hopwood, H.	Oakes Institute, Walton, Liverpool.
Maling, M. E.	Harrogate College.
Morgau, S. D.	Clyde House, Hereford.
Platt, H.	Private tuition.
Rose, H. E.	Private tuition.
Staeey, J. A.	Belgrave House, Littlehampton.
Bate, C. E.	St. Mark's School, Windsor.
Bates, E. M.	Cliftonville College, Margate.
Bowden, E. W.	Private tuition.
Chauncy, J. H.	11 Mt. Pleasant Rd., Lewisham, S.E.
Deverell, J. W.	Mercers' School, E.C.
Drake, E. C.	Manor House, Clapham.
Ede, G. G.	Maidenhead College.
Gray, H. J.	Birkenhead Institute.
Hart, F. T.	Gillingham Grammar School.
Horne, E. A.	Hill House, Folkestone.
Jones, W. E.	Gelligaer County School.
Keall, T. J.	Private tuition.
Manley, G. W.	Emwell House School, Warminster.
Plimsaul, S. W.	Devonport High School.
Ray, R. C.	Harrogate College.
Richardson, G.	Collegiate School, Bishop Auckland.
Roseveare, R.	Trowbridge High School.
Rumball, A. T.	Private tuition.
Simpson, R. J.	Beechen Cliff Coll., Peckham Rye.
Sprooles, H.	Emanuel S., Wandsworth Common.
Steed, G. J.	Maidenhead College
Taylor, M. L.	Manor House College, Hastings.

SECOND CLASS.—3RD DIVISION.

[1]Archer, P.	St. Leonards Collegiate School.
Boyden, C. J.	Needham School, Ely.
Brown, H. W.	New College, Margate.
Cole, H. J.	Staddon House School, Plymouth.
Cussans, A. C.	Loughton School, Essex.
Griffin, T. J.	Private tuition.
Griggs, L. F.	Mercers' School, E.C.
Hepburn, H.	Oxford House School, St. Albans.
Holden, P. T.	Ashford Grammar School, Kent.

BOYS, SECOND CLASS—*Continued.*

Lelew, H.	Brighton Grammar School.
Martyn, N.	Manor House, Clapham.
Mason, C.	Longsight Grammar S., Manchester.
Medworth, E. A.	Banham Grammar School, Attlebro'.
Rhodes, R. S.	The College, Churwell, Leeds.
Searle, K. O.	Manor House, Clapham.
Vincent, W. E.	St. Paul's School, West Kensington.
Wagenrieder, B. F.	The School, Gunnersbury.
Webb, J. N.	Stanley House, Margate.
[1]Willford, A. C	Thorne Grammar School, Doncaster.
Bossy, A. J.	Private tuition.
Crisp, J. G.	West Brighton High School.
Davies, W. J.	Lewisham Ho., Weston-super-Mare.
Downes, A. E.	People's College, Nottingham.
Dowsett, F. W.	W. Kent Grammar School, Brockley.
Gwyer, A. G.	Redland Grove College, Bristol.
Harris, C. C.	Ascham College, Clacton-on-Sea.
Holroyd, H. M.	The Crossley and Porter S., Halifax.
Huband, F. A.	Marlboro' Coll., Tue Brook, L'pool.
Jenkins, H. P.	Wallingford Grammar School.
Johns, C. S. M.	*d.* St. Paul's School, West Kensington.
Kirk, H.	Pembroke College, Harrogate.
Lambert, A. P.	Holt House School, Cheshunt
[1]Leslie, S.	216 Herbert Road, Woolwich
Lloyd, W. L.	Oakes Institute, Walton, Liverpool.
Paul, E. P.	The Huish School, Taunton.
Slade, A. P.	Winchester House, Redland, Bristol.
Tayler, F. L.	Hill House, Folkestone.
Wood, C. D.	Private tuition.
Bacon, G. N.	Manor House, Clapham.
Baker, F. G.	St. Leonards Collegiate School.
Ball, M. E.	New College, Margate.
Broad, R. A.	New College, Margate.
Cooper, C.	Ilkley College, Ilkley, Yorks.
FitzGerald, A. B.	Modern School, Woking
Jackson, G.	Brighton Grammar School.
Johnson, M.	Froebel House S., Stoke, Devonport.
Lancaster, G. H.	Mercers' School, E.C.
Lowe, R.	Ilkley College, Ilkley, Yorks.
Matthews, D.	Devonport High School.
McFarlane, H. C.	Polytechnic Intermediate School, W.
Smith, W. J. R.	Archbishop Holgate's School, York.
Tyson, J. H.	Read's School, Drax, Selby.
Wilkinson, F. C.	Ashford Grammar School, Kent.
Yates, A. E.	King's College, Wimbledon.
Bagley, H. B.	Theobald's Gram. S., Needham Mkt.
Bonas, R.	Belsize School, South Hampstead.
Crewe, H. A.	New Cross Collegiate School, S.E.
Ellis, C.	Ellesmere College, Eastbourne.
England, A.	Edward VI. Middle School, Norwich.
Farrar, M.	Furness College, Morecambe.
Featherstonhaugh, A. P.	Balham School, S.W.
Forster, W. I.	The Crossley and Porter S., Halifax.
Howatson, E. H.	Private tuition.
Jacob, A. H.	Middleton School, Bognor.
Kirkham, C. D.	Stanley House, Margate.
Knowles, C.	Harrogate College.
[1]Lawrance, R.	The Douglas School, Cheltenham.
Matthew, S.	Exmouth College.
Smith, F. S.	Montgomery Coll., Sharrow, Sheffield
Squibbs, C. F.	Dr. Morgan's School, Bridgwater.
Thornton, H. D.	Milton College, Ullesthorpe.
Tozer, S.	Mt. Radford School, Exeter.
Whitaker, O. P.	Private tuition.
Wilson, E. W.	The Modern School, Chichester.
Wright, A. C.	St. Paul's School, West Kensington.
Barrington, W. M.	The Huish School, Taunton.
Beal, F. H.	Loughton School, Essex.
Brown, V.	Private tuition.
Chisholm, A. D.	Edward VI. Middle School, Norwich.
Clark, G. E.	Springfield Mount School, Leeds.
Corrie, R. C.	The College, Gildersome, Leeds.
Donaldson, S.	Trowbridge High School.
Eldridge, H. W.	Ashford Grammar School, Kent.
Gibson, H. E.	Priory House School, Bridlington.
Golding, S. B.	Salway College, Leyton.
Hall, C. A.	Stamford Hill Collegiate School, N.
Hare, C. P.	Harrogate College.
Hodge, S.	Lancaster College, West Norwood.
Harris, W. D.	Heston House School, Hounslow.
Hayman, A. D.	East Anglian S., Bury St. Edmunds.
I'Anson, E. W.	New College, Margate.
Landrey, C. T.	Ongar Grammar School.
Le Dain, A. W. F.	Beaumont House School, Jersey.
Pile, G. H.	North London Collegiate S., N.W.
Stephenson, S. T.	Collegiate School, Grimsby.
Stow, R. W.	Kenilworth College.
[1]White, H. V.	Bristol Grammar School.
Elstob, H. G.	4 Finsbury Square, E.C.
Freeman, J.	Hindley Grammar School, Wigan.
Gibbons, H. B.	Collegiate School, Lapford.
Hollingworth, F.	Eton House School, Hull.
Melville, R. W.	Private tuition.
Murison, F.	Anerley College, Anerley, S.E.
Neal, J.	Petherton School, Green Lanes, N.
Pindar, G. K. G.	St. Martin's Gram. S., Scarborough.
Self, S. H.	Stoke Newington Grammar School.
Statham, J. J.	Edward VI. Middle School, Norwich.
Taylor, P. F.	Modern School, Woking.
[1]Tonge, H. S.	West Cliff School, Ramsgate.
Whatcley, B. W.	Willow House College, Walsall.
Whatford, C. R.	Brighton Grammar School.
Wood, J. G.	Balham School, S.W.
Arbuckle, D.	Thorne Grammar School, Doncaster.
Austen, A. J.	Colebrook House School, Bognor.
Carter, C. H.	Ascham College, Clacton-on-Sea.
Cooper, W. S.	Beechen Cliff Coll., Peckham Rye.
Evans E.	Birkenhead Institute.
Fleming, W.	Penketh Friends' S. near Warrington.
Hamlyn, R. B.	The College, Walton-on-the-Naze.
Harrington, R. G.	Private tuition.
Hart, B. L.	St. James' Collegiate School, Jersey.
Neill, P. V.	Oxenford House School, Jersey.
Roberts, F. E.	Private tuition.
Roseveare, S.	Trowbridge High School.
Stoughton, C. C.	Clapham Collegiate School, S.W.
Wood, A. T.	Harrogate College.
Yorke J.	Scarborough Grammar School.
Bagshawe, W. W.	The Crescent School, Sheffield.
Brock, H. E.	The College, Lowestoft.
Fitzmaurice, W. H.	Chaloner's School, Braunton.
Highton, A. D. S.	Milton Abbas School, Blandford.
Lesty, F. J.	Mercers' School, E.C.
Lodge, F. E.	People's College, Nottingham.
Miuck, A.	Borden School, Sittingbourne.
Neal, A. P.	Manor House, Clapham.
Proctor, H. S.	The Grammar School, Chepstow.
[1]Tyler, F. E.	The Douglas School, Cheltenham.
[1]Bridgeman, B. P.	Private tuition.
Broadhead, F.	Collegiate School, Grimsby.
Brooke, W. A.	Springfield Mount School, Leeds.
Harlow, W. W. R.	Private tuition.
Hunt, W. H.	Laugharne School, Southsea.
Hopwood, J.	Oakes Institute, Walton, Liverpool.
Shaw, H. L.	Grafton House School, Manchester.
Vine, M. A.	Mount Radford School, Exeter.
Bobby, H.	East Anglian S., Bury St. Edmunds.
Furnivall, A. J.	Private tuition.
Gray, M. I. W. N.	Versailles, St. Servan, France.
Harrison, F. C.	Gelligaer County School.
Holland, C.	Anerley College, Anerley, S.E.
Howe, P.	The Grammar School, Hyde.
[1]Klitz, H. H.	Cavendish College, Southampton.
Lecaudey, R. C.	Grove House S., St. Heliers, Jersey.
Matthews, O.	Gelligaer County School.
Newson, C. W. R.	Woodgrange House, Forest Gate, E.
Olver, J. H.	4 Finsbury Square, E.C.
Redfern, H. W.	Winchester Ho. High S., Yarmouth.
Sadler, R. T.	St. Paul's School, West Kensington.
Steveuson, H. B.	Manor House, Clapham.
Williams, D.	Wm. Ellis School, Gospel Oak, N.W.
Wilson, F.	Wellington College, Salop.
Wooding, L.	Wellington College, Salop.
Biggs, L. V.	Colne Rd. Middle Class S., Burnley.
Bond, T. W.	The Huish School, Taunton.
Bowyer, P. V.	Woolston College, Southampton.
Butler, A. H.	Collegiate School, Bridgwater.
Fountain, F. H.	Lawn House S., Clapham Road, S.W.
Hayes, H.	The College, Lowestoft.
Lloyd, D. G.	Gelligaer County School.
Scott, L. K.	Harrogate College.
Taylor, G. F. G.	Private tuition.
Woods, E. C.	Private tuition.
Workman, G. O.	Trowbridge High School.
Bostock, C.	Longton Endowed School, Staffs.
Clear, C. G.	East Cornwall College, Liskeard.
David, G. L.	Tanyrallt, Pontardawe.
Hagley, J. A.	Private tuition.
Hamer, H. F.	Anerley College, Anerley, S.E.
Harding, H.	West Brighton High School.
Leamy, R. E.	Edward VI. Middle School, Norwich.
Luff, C. W.	Emanuel S., Wandsworth Common.
Nash, G.	Private tuition.
Watkins, H. T.	Private tuition.
[1]Andrade, M. B.	Great Ealing School, W.
Baxter, S.	Edward VI. Middle School, Norwich.
Cox, H. C.	Rhodes House S., Manchester.
Cox, T. P.	Private tuition.
Etheridge, S. G.	Cowley College, New Barnet.
French, H. S.	Wilton Grove School, Taunton.
Gilliam, V. P.	Victoria Coll., Hornsey Rise, N.
Hope, H.	Burgess Hill High School, Sussex.
Lindley, R. H.	East Bridgford College.
Lockwood, W.	Pannal Ash College, Harrogate.
Nolte, G. H.	Grammar S., Weston-super-Mare.
Owen, G. E.	Kelly College, Tavistock.
Parlby, A. V.	North London Collegiate S., N.W.
Pounsford, J. L.	Anerley College, Anerley, S.E.
Stobbs, F. U.	St. Leonards Collegiate School.
Webb, J.	Apsley House School, Margate.
Wild, T. N.	Christ's College, Blackheath.
[1]Belshaw, R.	Private tuition.
Benbow, M.	Anerley College, Anerley, S.E.
Butler, P.	Private tuition.
Critchley, W.	Oakes Institute, Walton, Liverpool.
Diprose, H. G.	Balham School, S.W.
Harrison, L. G.	Milton Abbas School, Blandford.
Herbert, W. F. G.	Grosvenor College, Luton.
Lockhart, E.	Hendon Preparatory School.
Ormsby, A. R.	Bexley Heath College, Kent.
Pepper, T.	Rawlin's S., Quorn, Loughborough.
Redman, R.	Eton House, Anerley Road, S.E.
Smith, F. S.	Henley House S., Mortimer Rd., N.W.
Wilding E.	St. Leonards Collegiate School.
Boulter, F.	Theobald's Gram. S., Needham Mkt.
Bronsdon, A. G.	Balham School, S.W.
Goodman, H. T. P.	Brunswick House School, Windsor.
Greenslade, C. T. V.	Rugby House School, Brighton.
Ingham, A. E.	Private tuition.
Jackson, W. A.	Old Elvet School, Durham.
Johnson, A. A. H.	Stanley House, Margate.
Johnson, M. W.	East Anglian S., Bury St. Edmunds.
Marshall, W. B.	"The College," Walton-on-the-Naze.
Oates, W.	Spencer College, Wimbledon.
Pockson, G. H.	Bristol Cathedral Grammar School.
Rubie, A. H.	Ebor School, Bexhill.
Stanier, J. G.	Swindon High School.
Wade, C. J.	Colbrook House School, Bognor.
Wainwright, L.	The College, Lowestoft.
Ward, H.	Eton House, Anerley Road, S.E.
Williams, T. G.	Upton School, Slough.
Woodger, W. H.	Sandyford Acad., Newcastle-on-T.
Alexander, R. V.	Carlyon College, Chancery Lane, W.C.
Batley, V. G.	Hill Rise House S., Richmond, S.W.
Bazeley, E. H.	Private tuition.
Fell, H. L.	Anerley College, Anerley, S.E.
Hardy, T. M.	Montgomery Coll., Sharrow, Sheffield
Ingham, E.	St. Augustine's Gram. S., Dewsbury.
Lyth, P. R.	East Anglian S., Bury St. Edmunds.
Pemberton, R. O. W.	Prætoria House S., Folkestone.
Usmar, N. A.	St. Paul's School, West Kensington.
Watson, H. D.	Hill House, Folkestone.
Wills, H. R.	The Abbey School, Penzance.
Allen, R. R.	Private tuition.
Badcock, W. F.	The Huish School, Taunton.
Burke, C. J.	Private tuition.
Davy, E. H.	Private tuition.
Evans, H. F.	The Douglas School, Cheltenham.
Hall, A. G.	Arlington Pk. College, Chiswick.
Holford, A. H.	Park Hurst, Buxton.
Mahon, A. E.	Poyntington School, Bournemouth.
Peace, P. C.	Private tuition.
Robathan, H. J.	Combe Lodge, Malvern.
Sampson, A. L. W.	Middleton School, Bognor.
Smith, D.	Belsize School, South Hampstead.
Smith, G. L.	4 Finsbury Square, E.C.
Wyatt, W. J. L.	The Huish School, Taunton.
Amy, S.	Oxenford House School, Jersey.
Bayley, O. L.	Ashford Grammar School, Kent.
Catling, S.	North London Collegiate S., N.W.
Ford, S.	Elm House, Wareham.
Harrison, H. R.	Mercers' School, E.C.
Hooper, H. P.	Hillsborough S., Tunbridge Wells.
Middleton, F. M.	Manor House, Clapham.
Muggeridge, F.	Brixton Grammar School, S.W.
Robertson. H.	Ralham School, S.W.
Adnams, F. M.	Trowbridge High School.
Eccles, E.	Preston Catholic Grammar School.
Greener, F. P.	Highfield School, Rock Ferry.
Jupp, E. N.	Private tuition.
Kitching, G. A.	Allenby College, Derby.
Tomlinson, S.	Grafton House School, Manchester.
Williams, O. I.	Gelligaer County School.
Arbil, R.	Henley House, Mortimer Rd., N.W.
Bell, H. N.	Borden School, Sittingbourne.
Collins, L. W.	Upland College, Stoke Newington.
Greening, G. E.	Montgomery Coll., Sharrow, Sheffield
Jones, E. J.	Betton House, Shrewsbury.
Lee, T. D.	Borden School, Sittingbourne.
Mayo, T. G. W.	Bradford School, St. Peter's, Jersey.
Penfold, B. H.	Belgrave House, Littlehampton.
Pullon, H. M.	St. Martin's Gram. S., Scarborough.
Stevenson, N.	Ellesmere College, Eastbourne.
Edwards, E.	Gelligaer County School.
Hardy, F. P.	Milton Abbas School, Blandford.
Harrison, N. H.	Emanuel S., Wandsworth Common.
Huggett, J. I.	The Grammar School, Chepstow.
Hunt, H.	Modern School, Woking.
Jones, C. L.	Old College School, Carmarthen.
Morgan, W.	Private tuition.
Stockton, R. D.	Bourne College, Birmingham.
Toller, W. S.	The Huish School, Taunton.
Bishop, A. H.	Borden School, Sittingbourne.
Blackmore, S. P.	Private tuition.
Burgess, F. C.	Broomwood, Clapham Common, S.W.
Durrant, C. R.	Barton School, Wisbech.
Graves, H. J. H.	Manor House, Clapham.
Howland, C.	Milton Abbas School, Blandford.
Illius, D. W.	Private tuition.
Russell, G. H.	Private tuition.
Tough, F. G.	New Hall College, Sutton Coldfield.
[1]Wolf, H.	Private tuition.
Blunt, J. T.	Barton School, Wisbech.
Bowkett, E.	Private tuition.
Brown, R. G.	Jesmond Coll., Newcastle-on-Tyne.
Bruce, G. S.	Private tuition.
Firth, A. H.	Hurst Lodge School, East Putney.
Hunter, W. H.	Selhurst Park Coll., S. Norwood, S.E.
Maunder, A. J.	Devonport High School.
Maxted, A.	Yalding Grammar School.
Mercer, F.	New College, Margate.
Morford, V.	Maidenhead College.
North, W. A.	Milton College, Ullesthorpe.
Orr, G.	Thorne Hill S., Kidbrook, Blackheath
Proud, L. H.	Ongar Grammar School.
Renton, C. L. W.	Ellesmere School, Harrogate.
Roe, W. R.	Borden School, Sittingbourne.
Abrams, E. A.	Borden School, Sittingbourne.
Blake, A. J.	Stanley House, Margate.
Ellis, W. E. J.	Ellesmere College, Eastbourne
Gonin, H.	West Leigh, Botley.
Hogue, R. J. W.	Brinklea, Bournemouth.
Montgomery, C.	Ilkley College, Ilkley, Yorks.
Oxton, B.	Birkenhead Institute.
Priestley, J.	Ilkley College, Ilkley, Yorks.
Radley, F. L.	Selhurst Park Coll., S. Norwood, S.E.
Scriven, G.	Ilkley College, Ilkley, Yorks.
Turner S. A.	Cavendish House, Hammersmith.
Buller, C. J.	Winchester Ho. High S., Yarmouth.
Connell, G. H.	Ousegate School, Selby.
Harvey, R.	Cavendish College, Southampton.
Johnson, F. A.	Boys' Collegiate School, Aldershot.
Nicolle, A. J.	Gillingham Grammar School.
Pettey, L.	Private tuition.
Walden, S.W.	Arlington Park College, Chiswick.
Wales, H. H.	Oxford Ho. S., Sutherland Avenue, W.
Bagshawe, G. R.	The Crescent School, Sheffield.
Brown, J. P.	Birkenhead Institute.
Carey, O. L.	Private tuition.
Gregson, H.	Commercial School, Astley Bridge.
Hamlin, A. E.	Berrylands House, Surbiton.
Heasman, H. W.	Hillsborough S., Tunbridge Wells.

BOYS, SECOND CLASS—*Continued.*

Hobson, C. J.	Ashford Grammar School, Kent.
James, E. J.	St. Leonards Collegiate School.
Price, E. J.	Private tuition.
Ranger, F. W.	Beaumont House School, Jersey.
Taylor, H. F.	Grammar School, Weston-s.-Mare.
Wallace, J. K.	Mt. Radford School, Exeter.
Watkins, F. J.	Winchester House, Redland, Bristol.
Ainsworth, W.	Park Hurst, Buxton.
Beer, H. J.	Staddon House School, Plymouth.
Bolton, C. J.	Beverley School, Barnes.
Corless, J. H.	Hindley Grammar School, Wigan.
Fulford, A. E.	Emanuel S., Wandsworth Common.
Gardner, P.	St. Mary's Hall, Cardiff.
Jenkins, W. J.	Tanyrallt, Pontardawe.
Martin, A.	Hindley Grammar School, Wigan.
Phillips, G. F.	Wallingford Grammar School.
Richardson, J.	Pannal Ash College, Harrogate.
Wright, H.	British School, Stony Stratford.
Bradshaw, J. H.	Wellington House, Broadstairs.
Lewis, J. G.	Private tuition.
Littleboy, J. T.	Modern School, Woking.
Marwood, H. D.	Emanuel S., Wandsworth Common.
Old, F. A. C.	North London Collegiate S., N.W.
Oscroft, G. S.	People's College, Nottingham.
Roberts, A. O.	Collegiate School, Grimsby.
Roe, H. B.	Borden School, Sittingbourne.
Badcock, G. S.	Rugby House School, Brighton.
Hardwick, S. H.	High School, Sutton, Surrey.
Massey, H.	St. Mary's Hall, Cardiff.
Oxley, A. E.	Bexley Heath College, Kent.
Stehling, G. F.	Emanuel S., Wandsworth Common.
Sturt, D. E.	Grosvenor School, Twickenham.
Brewer, R. H.	Harrogate College.
Browne, C. A.	Kent Coast College, Herne Bay.
Bryan, L. C.	North London Collegiate S., N.W.
Byatt, G. H.	Midhurst Grammar School.
Colmer, V.	Gillingham Grammar School.
Eades, A. H.	East Cornwall College, Liskeard.
Haworth, H.	The Grammar School, Eccles.
Holland, F. W.	Anerley College, Anerley, S.E.
Krakauer, H.	High School, Barnsley.
Mace, A. J.	Emanuel S., Wandsworth Common.
Soulby, E. E.	Archbishop Holgate's School, York.
Wooldridge, H. J.	Private tuition.

THIRD CLASS.—1ST DIVISION.

[1]Atkinson, C. R. *bk.*	Elmfield College, York.
[2]Hamilton, W. H. *ger.*	Sir Andrew Judde's S., Tonbridge.
[2]Branson, F. Y.	Banham Grammar S., Attlebro'.
[2]Andrew, R. A. *d.*	Penketh Friends' S., Warrington.
[2]Bulloch, A.	Oakes Institute, Walton, Liverpool.
[2]Herridge, A. G.	Leeds Church Middle Class School.
[2]Purcell, H. E. L. *ger.*	Private tuition.
Keech, W. D.	Battersea Grammar School, S.W.
[2]Harvey, F. P. P.	Private tuition.
[2]Hopkinson, H.	Private tuition.
[2]Wolfenden, H.	Grammar School, Burton-on-Trent.
[2]George, H. H. S.	Private tuition.
[2]Caton, J. W.	Wellinghorough Grammar School
Rigg, R.	Ilkley College, Ilkley, Yorks.
[2]Roose, F. O. J.	Private tuition.
Unwin, F. R.	Earls Colne Grammar School, Essex.
[2]Hartridge, A. D.	Ascham College, Clacton-on-Sea.
Hitchcock, J. W.	Earls Colne Grammar School, Essex.
[2]Lintott, A. L.	Mercers' School, E.C.
[2]Beecroft, F.	Scarborough Grammar School.
[2]Ives, W. F. H.	Woolston College, Southampton.
[2]Melville, A. N. *d.*	St. Paul's School, West Kensington.
[2]Roberts, F. E.	Preliminary Medical College, E.C.
[2]Danes, W. *d.*	Brunswick House, Maidstone.
[2]Rogerson, J.	Royal Grammar School, Whalley.
[2]Wright, F. T.	Longton Endowed School, Staffs.
[2]Allen, C. P.	The High School, Brentwood.
[2]Canton, E. F.	University College School, W.C.
[2]Foster, S.	Private tuition.
[2]Gifford, J. E. *bk.*	Gillingham Grammar School.
[2]Pite, N. F.	High School, Bromley, Kent.
[2]Cundy, H. I.	Sussex College, Eastbourne.
[2]Hodson, F. W.	Epsom College.
[2]Milner, G.	Scarborough Grammar School.
[2]Canton, S. A.	University College School, W.C.
[2]Dick, W. D.	Private tuition.
[2]Dixon, F. E.	High Park Hall College, Ryde, I.W.
[2]Maddocks, W. J.	Burgess Hill High School, Sussex.
[2]Wallis, R.	Weymouth College, Weymouth.
[2]Cooper, E. G.	Merivale, Bexhill.
[2]Harper, F.	High School for Boys, Bolton.
[1]Le Masurier, E. P. *f.*	Victoria College, Jersey.
[2]Greenwood, H. S. *bk.*	West Cliff School, Ramsgate.
Rathfelder, O. E. *ger.*	Wyllies, Cuckfield.
[1]Armfield, M.	Sidcot School, Winscombe, Som.
[2]Hekking, F. A.	Berrylands House, Surbiton.
[2]Nicholls, G. H.	Stoke Newington Grammar School.
Bayford, A. E. S.	Westbourne Park College, W.
Belsham, C.	The High School, Romford.
Brooke, A.	Brunswick House, Maidstone.
[2]Cranston, H. S.	Cowley College, New Barnet.
[2]Griffiths, T. H.	Clyde House, Hereford.
[2]Higginson, H. A.	High School for Boys, Bolton.
[2]Lill, F.	Barton School, Wisbech.
Fletcher, B. P.	The High School, Romford.
[2]Gentry, M. J. G.	Ascham College, Clacton-on-Sea.
[2]Littlejohn, E. A.	Mercers' School, E.C.
[2]Quertier, R.	Sidcot School, Winscombe, Som.
Rolfe, H. C.	New Hall College, Sutton Coldfield.
[2]Stroud, N. V.	Grafton House School, Manchester.
[2]Alkin, J. E.	Hilton House School, Atherstone.
[2]Curtis, C. H.	Milton Abbas School, Blandford.
[2]Diamond, H. V.	Queen's College, Streatham Hill.
[2]Dickson, S. A.	Prætoria House School, Folkestone.
Evans, H. E.	High School, Sutton, Surrey.
Freeme, H. E.	Blue Coat School, Reading.
Inman, T. M.	Hoscote House School, West Kirby.
[2]Lord, C. R.	The Grammar School, Eccles.
Porter, B. G.	Cliftonville College, Margate.
Rawlings, C. A.	Portway High School, Bath.
[1]Thomas, W.	Middleton College, New Brighton.
Venn, E. W.	Collegiate School, Bridgwater.
[2]Walters, A. E.	Grove House School, Highgate.
Wright, A. A.	Blue Coat School, Reading.
Alexander, W. B.	Wingfield House, Dover.
[2]Avis, W. S.	Borden School, Sittingbourne.
Beavitt B.,	People's College, Nottingham.
[2]Bown, C. B. W.	Grammar School, Newton Abbot.
[2]Chandler, H. S.	4 Finsbury Square, E.C.
Steward, G. E.	Wellington College, Salop.
[1]Taylor, T.	Collegiate School, Bridgwater.
[2]Cordner, R. H. L.	Private tuition.
Minor, P.	Wellington College, Salop.
Smith, K.	The Avenue School, Leigh, Lancs.
[2]Keene, B.	Stoke Newington Grammar School.
[2]Major, W. P.	Dr. Morgan's School, Bridgwater.
Thomas, M. L.	Godwynehurst, Dover.
[2]Wade, G. F.	University School, Reigate.
Blackford, A. W.	Collett House School, Bournemouth.
Dwerryhouse, E.	Farnworth Grammar School, Widnes.
[2]Edwards, H. M.	Ascham College, Clacton-on-Sea.
Gook, A. C.	Battersea Grammar School, S.W.
[2]Vaughan-Jones, V.	St. Paul's School, West Kensington.
Culf, P.	Earls Colne Grammar School, Essex.
[2]Gahriel, S. A.	Godwynehurst, Dover.
[2]Poignand, C. A.	Prætoria House School, Folkestone.
Prockter, A. I.	Tudor Hall, Hawkhurst.
Wilson, R. E.	De Gresley Lodge, Southsea.
[2]Hodgson, W. H. H.	The Crossley and Porter S., Halifax.
[1]Ker, W. P. W.	Henley School, Henley-on-Thames.
Prater, H. W.	Blue Coat School, Reading.
Stansfield, E. C. H.	High School, Bromley, Kent.
[2]Belmont, D.	Private tuition.
Butler, R. C.	Collegiate School, Bridgwater.
Hill, E. L.	Trowbridge High School.
Maltan, L.	Springfield College, Acton Hill.
Martin, G. H.	High School, Bromley, Kent.
[2]Sarge, R. A.	Private tuition.
[2]Shedden, L. H. C.	Winchester House, Southampton.
[1]Turpin, W. B.	Ebor School, Bexhill.
[2]Barker, W. W.	Eliot Bank School, Forest Hill, S.E.
[2]Bennett, A. E.	Holloway College, N.
[2]Chadwick, K. M.	Private tuition.
Collington, F. E.	People's College, Nottingham.
Crisp, C. W.	Halstead Grammar School.
[2]Handley, O. W.	Private tuition.
[2]Hartley, J. B.	Penketh Friends' S., Warrington.
Howell, R. H.	Gravesend Modern School.
[2]Jones, H. P. J.	High School for Boys, Bolton.
Stanley, P. L.	Sydenham House, Leamington.
[2]Tilley, J. L. O.	Private tuition.
[2]Wilkins, F. T.	Portway High School, Bath.
Allen, E. A. J.	Hart House School, Burnham, Som.
[2]Carlaw, J. McK.	Portsmouth Grammar School.
[2]Berry, A. R.	Private tuition.
Drayson, R.	Gravesend Modern School.
[2]Mackay, J. A.	West Cliff School, Ramsgate.
[2]Nixon, C. B.	Penketh Friends' S., Warrington.
Oshorne, W. G.	Heston House School, Hounslow.
Selley, F.	Battersea Grammar School, S.W.
Bolton, P. J.	Brunswick House, Maidstone.
Coombs, A. G.	Collegiate School, Bridgwater.
[2]Hince, A. H.	Preliminary Medical College, E.C.
Jones, W. M.	Private tuition.
Jury, H. A.	Gravesend Modern School.
[2]Blaxley, T. T.	Private tuition.
Craig, J. W.	Collegiate School, Bishop Auckland.
[2]Darbyshire, W. E.	Penketh Friends' S., Warrington.
Harvey, L. E.	Saham College, Watton, Norfolk.
King, B. J.	Wilsford House School, Devizes.
[2]Lloyd, F. J.	Penketh Friends' S., Warrington.
Plimsoll, E. J.	Exmouth College.
Santo, R.	Harleigh House School, Bodmin.
Stansfield, T.	Kendrick Boys' School, Reading.
[2]Walker, G. B.	Wyllies, Cuckfield.
[1]Walmsley, C. H.	The Grammar School, Eccles.
[2]Abbott, F.	People's College, Nottingham.
Bentley, C.	People's College, Nottingham.
Busby, W.	Gravesend Modern School.
[2]Colson, J. K. St. C.	Handel College, Southampton.
Halling, G. L. L.	Esplanade House School, Southsea.
Macalpine, F. C.	Rusholme High School, Manchester.
[2]Milburn, R. R.	New Cross Collegiate School, S.E.
Paterson, J.	St. John's College, Southend.
Platt, T.	Battersea Grammar School, S.W.
Saker, S. C.	Tudor Hall, Hawkhurst.
[2]Bennett, W. E.	Harrogate College.
[2]Cocker, A. B.	Islington High School, N.
Delmege, J.	De Gresley Lodge, Southsea.
Durston, G. F.	Lewisham House, Weston-s.-Mare.
[1]Forster, H. F.	University Tutorial College, W.C.
Laws, S. B.	New College, Margate.
Woods, R. C. F.	Glenwood College, Newmarket.
Young, S. J.	Tudor Hall, Hawkhurst.
Gardner, P.	St. John's Royal Latin S., Buck'ham.
[2]Gleed, P. F.	Mercers' School, E.C.
[1]Harris, A.	Grammar S., Camelford, Cornwall.
[2]Hill, E. L.	Stanley House, Margate.
Hodge, H.	Grammar School, Hayle, Cornwall.
James, C. C.	Wilsford House School, Devizes.
[2]Jones, W. A.	Gelligaer County School.
Kale, E.	Wilson College, Cazenove Road, W.
Leigh, W. H.	Victoria College, Congleton.
May, D. E.	Earl's Colne Grammar School, Essex.
Moysey, J. E. D.	Mount Radford School, Exeter.
Parker, J. O.	Whitworth School, Derby.
Payne, C. S.	Grenville School, Queen Square, W.C.
Sinkings, C.	Marlborough Coll., Tue Brook, L'pool.
Swinnerton, H.	Victoria College, Congleton.
[2]Talbot, G. F.	Retford Grammar School.
Brown, A.	Emanuel S., Wandsworth Common.
[2]Leigh, C.	11 Scarisbrick Street, Southport.
Plank, R. H	Stoke Newington Grammar School.
[1]Whitlow, H. L. *sh.*	Craven Park Boys' College, N.W.
Boys, F. H.	Warrior Square School, Southend.
Cottew, H. C.	Godwynehurst, Dover.
Dove, P.	Boys' High School, Shrewsbury.
Farrants, M. C.	Earls Colne Grammar School, Essex.
[2]Gibbs-Jones, R. N.	Oakes Institute, Walton, Liverpool.
Giles, C.	Blue Coat School, Reading.
[2]Godfrey, J. H.	Elm Bank School, Nottingham.
[2]Lelew, F.	Brighton Grammar School.
[2]Morton, C. N.	Vickery's, Southsea.
Parker, T. E.	People's College, Nottingham.
[2]Phillips, R. L.	The Abbey School, Penzance.
Sallery, B. F.	Kendrick Boys' School, Reading.
Samuel, R. I. M.	Ilfracombe College.
Cooper, F. T.	Wesleyan Hr. Grade S., Colchester.
Foster, H. W. A.	Henley House, Mortimer Rd., N.W.
Griffiths, R.	Wellington College, Salop.
Hawkins, T. J.	Wellington College, Salop.
Lee, G. H.	Chalouer's School, Braunton.
[2]Norman, F.	Private tuition.
[2]Palmer, F. N.	Collingwood College, Lee, S.E.
Place, F. T.	Brunswick House, Maidstone.
[2]Scott, S. G.	Private tuition.
[2]Walker, H. C.	The Grammar School, Blackpool.
Bagshaw, A. H.	Private tuition.
Bunn, A. G.	Kendrick Boys' School, Reading.
[2]Denny, B.	Halbrake S., Wandsworth Common.
Francis, J. E.	Sudbury Grammar School, Suffolk.
Harrison, W. C.	Beaumont House School, Jersey.
[2]Harle, J. L.	Harrogate College.
[2]Jones, N. S.	Burgess Hill High School, Sussex
[2]McClellan, W.	Scarborough Grammar School.
Satchell, W. J.	Blue Coat School, Reading.
Sellon, M. H.	The Grammar School, Eccles.
Sharman, W. A.	Collegiate School, Bridgwater.
Stoner, W. B.	Stoke Newington Grammar School.
Welford, A.	Manor House College, Hastings.
Wilmer, E.	Warrior Square S., Southend.
Bardoe, S. W.	Gravesend Modern School.
Bennell, J. C.	Wesleyan Hr. Grade S., Colchester
Boshier, G.	Banbury School, Oxon.
Cross, L. C.	Weston School, Bath.
Entwisle, G.	Formby and Freshfield Hr. S., L'pool.
[2]Garlike, G. P.	Elveden, Clifton, Bristol.
Greenwell, A.	Collegiate School, Bishop Auckland.
[2]Jones, L. A.	Private tuition.
[2]Larkin, S.	St. Auhyn's, Woodford Green.
Parsons, H.	Rugby House School, Brighton.
[2]Sanderson, L. N.	Scarborough Grammar School.
Scorah, T.	Read's School, Drax, Selby.
Simmons, J. B.	Cliftonville College, Margate.
[2]Somerford, H. A.	Manor House, Clapham.
[2]Tanton, J. H.	West Cliff School, Ramsgate.
Townley, C. F.	"The Woodroughs," Moseley, B'ham.
Bruzaud, S. J.	De Gresley Lodge, Southsea.
Chapple, F.	E. Devon County S., Sampf'd, Peverell
Darby, A.	E. Devon County S., Sampf'd, Peverell
[1]Davies, M.	Sarsfield House, Roath, Cardiff.
[2]Edwards, F. C.	Mary Street House School, Taunton.
[2]Fox, H. S. D.	Wyllies, Cuckfield.
[2]Grove, F. H.	Halesowen Grammar School.
Hadland, P. A.	Towcester School.
Leader, R. A.	Grosvenor College, Luton.
Machin, W.	Longton Endowed School, Staffs.
[2]McGoun, H.	Maidenhead College.
McNair, D.	Ebor School, Bexhill.
Margarson, B.	St. Nicholas Com. S., E. Dereham.
Mortou, F.	Clapham Collegiate School, S.W.
Newton, E.	Henley House, Mortimer Rd., N.W.
Pocock, G. W.	Battersea Grammar School, S.W.
Smith, W. F.	St. John's Hospital School, Exeter.
[2]Snow, F. C.	Castle Hill School, Ealing.
[2]Stockdale, R. B.	Elm Park College, Liverpool.
Taylor, R. S.	Hoscote House School, West Kirby.
Wagstaff, S. W.	The School, Eaton Socon.
Alston, D.	Sudbury Grammar School, Suffolk.
[2]Bloxsome, A. H.	Private tuition.
[2]Brazil, J.	Catford Collegiate School, S.E.
Burge, J. T.	Winchester House, Redland, Bristol.
[2]Carter, A.	Private tuition.
[2]Carter, S. J	Laugharne School, Southsea.
[2]Cocker, H. J.	Private tuition.
[2]Despointes, F. E.	Cliftonville College, Margate.
Ereaut, S. G.	Beaumont House School, Jersey.
Foord, A. R.	Tudor Hall, Hawkhurst.
[2]Goodman, F. A.	Devonport High School.
Griffiths, E. W.	County School, Bethesda, N. Wales.
[2]Harrison, J. D.	Burnley Grammar School.
[2]Hobbs, C.	Maidenhead College.
[2]Hutchesson, C. M.	New Hall College, Sutton Coldfield.
[2]Moffatt, I. P.	High School, Camborne.
O'Donoghue, E. C. C.	Prætoria House School, Folkestone.
Piner, W. J.	Upton School, Slough.
Procter, E. A.	Wellington College, Salop.
Snoddy, S.	Farnworth Grammar School, Widnes.
[2]Stallwood, F.	Caversham House School, Reading.
[2]Thomas, A. J. O.	Lancaster College, West Norwood.

BOYS, THIRD CLASS—*Continued.*

Walker, A.	Huntingdon House S., Teddington.
Withinshaw, J. W.	Victoria College, Congleton.
[2]Angel, N. *gcr.*	Devonport High School.
Cowling, E. J.	Grammar School Streatham, S.W.
Cox, H. A.	Lewisham Park School, S.E.
[2]Faux, C. E.	Highfield School, Chertsey, Surrey.
Heddon, H.	Eton House, Anerley Road, S.E.
Horn, J. P.	Selhurst Pk. Coll., South Norwood.
Ingham, H.	The Grammar School, Blackpool.
Lambert, E. A.	East Anglian S., Bury St. Edmunds.
Liam.	High School, Newcastle, Staffs.
[2]Macken, G. S.	Halbrake S., Wandsworth Common.
[2]Mitchell, R. P.	Polytechnic Intermediate S., W.
Norton, E. F.	Wyllies, Cuckfield.
Payne, B.	The Grammar School, Blackpool.
Peach, R. J.	Aston Hall, Prestonbrook, Cheshire.
[2]Perkins, R. B.	Private tuition.
[2]Plumley, C. G.	Private tuition.
[2]Robertson, W.H.A.	St. Paul's School, West Kensington.
Rockett, H. S.	Corner House School, Godstone.
Smailes, F. A.	York Manor School, York.
Thomas, H. J.	Grammar School, Hayle, Cornwall.
Thorpe, W.	Burgess Hill High School, Sussex.
Upperton, H. W.	Battersea Grammar School, S.W.
Whibley, C. F.	St. Augustine's College, Maidstone.
Woolfitt, J. R.	Barton School, Wisbech.
[2]Barlow, F. E.	The Crossley and Porter S., Halifax.
Bird, E. B.	Middleton School, Bognor.
Butcher, W.	St. John's Royal Latin S., Buckingham.
[2]Chester, C. J.	Private tuition.
Deaves, F. P.	Cavendish Grammar School, Suffolk.
Dixon, C.	Upton School, Slough.
Edwards, A. E.	Farnworth Grammar School, Widnes.
[2]Entwistle, J. K.	Private tuition.
Evans, W. D.	Gelligaer County School.
Foster, R. C.	Loughton School, Essex.
[2]Jackling, P.	Brunswick House, Maidstone.
Kemsley, H. B.	Loughton School, Essex.
[2]Kershaw, J.	Rhodes House School, Manchester.
Longton, H.	Farnworth Grammar School, Widnes.
Mead, P. F.	Wesleyan Higher Grade S., Colchester
Nixon, W. A.	The High School, Romford.
Peirce, C. R.	Aston Hall, Prestonbrook, Chester.
Poole, R. H.	Winchester House, Redland, Bristol.
[2]Sheard, P. L.	Longsight Grammar S., Manchester.
Shipley, L.	Elmfield College, York.
Tansley, H. H.	Longton Endowed School, Staffs.
[2]Whicher, S. H.	Manor House, Havant.
[2]Bailey, J. B.	Oakes Institute, Walton, Liverpool.
[2]Bardell, J. E.	New Hall College, Sutton Coldfield.
Barker, F.	Ellesmere School, Harrogate.
Beckett, H.	Marlborough Coll., Tue Brook, L'pool.
Blockley, H. J.	Wellington College, Salop.
Bouquet, A. G. B.	Wellington House, Broadstairs.
[2]Brook, A.	The Crossley and Porter S., Halifax.
Chitty, C. G.	Godwynehurst, Dover.
[2]Collins, A. R. L.	Beverley School, Barnes.
Cottage, W.	Ongar Grammar School.
De Ridder, A. W.	Marlborough Coll., Tue Brook, L'pool.
Furber, A. M.	St. George's College, Wimbledon.
Ingram, F. W.	Kingston School, Yeovil.
Ireland, A. G.	Inglefield House S., Highbury, N.
Jenkins, C. D.	Collett House School, Bournemouth.
[2]Joyce, E. F.	Stanley House, Margate.
Leaver, N.	St. Augustine's College, Maidstone.
Lucas, F.	Farnworth Grammar School, Lancs.
[2]Miles, S. E.	Trowbridge High School.
[2]Millet, W.	Polytechnic Intermediate School, W.
Nairn, H. W.	Ilfracombe College.
Parker, C. P.	Furness College, Morecambe.
[2]Power, E. A.	New Hall College, Sutton Coldfield.
Pollard, T. W.	The High School, Romford.
Pudney, H. W. J.	Borden School, Sittingbourne.
Row, H. N. E.	Sudbury Grammar School, Suffolk.
[2]Saliot, A. H. E.	North London Collegiate S., N.W.
Scales, B. C.	St. Nicholas Com. S., E. Dereham.
Welchman, E. T.	Ongar Grammar School.
Williams, H. W.	Stoke Newington Grammar School.
Wooldridge, E. P.	Trafalgar House, Lee-on-the-Solent.
Yeaxlee, B. A.	Esplanade House S., Southsea.
Alkan, G.	Polytechnic Intermediate School, W.
[2]Bradford, O. A.	Eastbourne Old School.
[2]Brickel, R. B.	Longton Endowed School, Staffs.
Brown, F. A.	Wesleyan Hr. Grade S., Colchester.
Cook, R.	Guildhall Mid. S., Bury St. Edmunds.
Foord, H. E.	Tudor Hall, Hawkhurst.
[2]Furness, R. C.	Royal Grammar S., High Wycombe.
Gott, J.	Pomfret College, Pontefract,
Hansen, S.	New Hall Coll., Sutton Coldfield.
Harrison, F. H.	Huntingdon House S., Teddington.
[2]Hawkes, A. B.	Private tuition.
McCrea, E.	The Grammar School, Blackpool.
[2]Money, G. C. T.	St. Kenelm's College, Cowley, Oxford
[2]Mortimer, W.	Leeds Church Middle Class School.
[2]Paul, D. H.	Park Hurst, Buxton.
[2]Pullan, C.	Pannal Ash College, Harrogate.
Richards, G.	Wellington College, Salop.
Sayner, H. J.	Harrogate College.
Shepherd, P. A.	Tudor Hall, Hawkhurst.
Spiers, H. R.	Esplanade House School, Southsea.
[2]Taylor, F. D.	The Abbey School, Penzance.
[2]Tucker, W. H. E.	Gillingham Grammar School.
Walker, H. T. A.	Colebrook House School, Bognor.
Wallis, A. S.	St. John's Royal Latin S., Buckingham.
Weston, V. J. T.	Banham Grammar S., Attleborough.
Woods, W.	Upton School, Slough.
Wootton, A. G.	Stanley House, Margate.
Armstrong, S.	Collegiate School, Bishop Auckland.
Austin, R. A. H.	Dane Hill School, Margate.
[2]Baillie, P.	Private tuition.
Baker, J. O.	Grammar School, Worthing.
Barlow, A. W.	Blue Coat School, Reading.
[2]Boulton, F. H.	Cowes Grammar School.
[2]Boulton, H.	Longton Endowed School, Staffs.
Cabeldu, A. H.	Beaumont House School, Jersey.
Clark, R. H.	Grammar School, Streatham, S.W.
Carter, A. E.	Penketh Friends' School, Warrington.
[2]Christie, W. T.	Private tuition.
Coombes, G. F.	Harringay School, Green Lanes, N.
Crawford, A. L.	Stoke Newington Grammar School.
Denning, H.	Winchester House, Redland, Bristol.
Gressier, A. T.	Cliftonville College, Margate.
Nicklin, J. B.	Edgbaston Academy, Birmingham.
Raker, E. H.	Wesleyan Higher Grade S., Colchester.
[2]Robinson, W. J.	Tynemouth School.
[2]Rule, A. C.	Tottenham College, N.
Sault, J. W.	Rawlin's S., Quorn, Loughborough.
Sheers, W. D.	Furness College, Morecambe.
Speakman, H. H.	Victoria College, Congleton.
[2]Turner, E. L. D.	Private tuition.
Tutton, E. B.	Portway High School, Bath.
Walker, W. E.	Pembroke College, Harrogate.
Watt, J.	The Choir School, Edinburgh.
Willshire, F. J.	Poyntington School, Bournemouth.
Wood, J. S.	The College, Gildersome, Leeds.
Arbuckle, J. F.	Marlborough Coll., Tue Brook, L'pool.
Bartlett, A. G.	Cliftonville College, Margate.
Bolderston, W. N.	Harleigh House School, Bodmin.
Chippindale, C.	Elmfield College, York.
Clapp, J. S.	Summerleaze Coll. S., E. Harptree.
Claytou, F.	Southport Modern School.
[2]Coley, W. G.	Stanley House, Margate.
Drayton, H.	Grosvenor College, Luton.
Dykes, F.	Brunswick House, Maidstone.
Gibson, N.	St. Martin's Gram. S. Scarborough.
[2]Hackett, J. E.	Brighton Grammar School.
Hoyle, S.	Farnworth Grammar School, Widnes.
Kenyon, H. L.	The Grammar School, Eccles.
Kepple, S. A. F.	Winchester House, Redland, Bristol.
[2]Lake, F. C.	Stoke Newington Grammar School.
Lavington, H.	Collegiate School, Bridgwater.
[2]Lewis, J. I.	Gelligaer County School.
Macdonald, C. G.	All Saints' Choir School, Clifton.
Parnell, J. H.	Guildhall Mid. S., Bury-St.-Edmunds
Phillips, A. B.	Wellington College, Salop.
Steele, J. G.	Leek Grammar School.
[2]Swayne, H. C.	Castle College, Guildford.
[2]Walls, J.	Hindley Grammar School, Wigan.
West, G. W.	Blue Coat School, Reading.
Wilkin, L. L.	Grammar School, Hayle, Cornwall.
Yarnall, C. W.	Collett House School, Bournemouth.
Yeo, W. H.	Barnstaple Grammar School.
Arscott, L. G.	Milton Abbas School, Blandford.
Bailey, R. B.	The Grammar School, Blackpool.
[2]Blake, R. L.	Vickery's, Southsea.
Blogg, R. J.	Emanuel S., Wandsworth Common.
Cahill, A.	Wesleyan Higher Grade S. Colchester.
Carr, W. N.	Leek Grammar School.
Charig, E. B.	Ongar Grammar School.
Davies, L. T.	Gelligaer County School.
Edwards, A. T.	The High School, Merthyr Tydfil.
Evans, T.	Tanyrallt, Pontardawe.
Hall, D. G.	Gelligaer County School.
Hammant, F. C.	Leo House School, Margate.
[2]Hannay, J.	The Grammar School, Eccles.
Jackson, W. F.	Formby & Freshfield Higher S., L'pool
Jopling, A.	Elmfield College, York.
[2]Lake, G.	Mercers' School, E.C.
Mondon, E. J.	Southdown College, Eastbourne.
Sawtell, C. H.	Wilsford House School, Devizes.
Stanton, G. W.	Oxenford House School, Jersey.
Stopp, H.	Wallingford Grammar School.
Sprawson, A.	Marlborough Grammar School.
Tewson, D. C.	Wilson College, Cazenove Road, N.
Thompson, R. W.	Huntingdon House S., Teddington.
Tyler, J. W.	Dane Hill School, Margate.
Wadman, H. A.	Gillingham Grammar School.
Walker, R. R.	Wellington College, Salop.
Webster, A. S.	Boys' High School, Shrewsbury.
Welford, J.	Ilkley College, Ilkley, Yorks.
Wright, G.	People's College, Nottingham.
Bayly, A. E.	Chudleigh Grammar S., South Devon.
[2]Booth, C. A.	The College, Churwell, Leeds.
Canuell, H. P.	East Anglian S., Bury St. Edmunds.
[2]Chidley, L. M.	Churcher's College, Petersfield.
Codd, R.	Devonport High School.
[2]Dipple, E. R.	Cliftonville College, Margate.
Elliott, J. P.	Clyde House, Hereford.
[2]Gilling, W.	Thirsk High School.
[2]Goodger, C.	Brighton Grammar School.
Home, L. S.	Stanley House, Margate.
Jefferies, G. D.	Belmont House, Upper Tooting, S.W.
[2]Kershaw, W. J.	Oakes Institute, Walton, Liverpool.
Lavington, R.	Collegiate School, Bridgwater.
[2]Long, R.	London Coll. Gram. S., Holloway Rd.
[2]Martindale, L.	Prætoria House School, Folkestone.
[2]Oliver, J. C.	Henley House S., Mortimer Rd., N.W.
Rippington, A.	Kendrick Boys' School, Reading.
Robinson, V.	Harrogate College.
Scott, A. F.	Rawlin's S., Quorn, Loughborough.
Spurgeon, H. J.	Woodgrange House, Forest Gate, E.
[2]Adams, R.	Eastbourne Old School.
[2]Ash, H. D.	Haileybury College, Hertford.
Ball, S. R.	The Woodroughs, Moseley, B'ham.
[2]Beeby, A. J.	Harrogate College.
Browne, R. H.	People's College, Nottingham.
Cowl, H. H. R.	Marlborough Coll., Tue Brook, L'pool.
Dewsbury, R.	Bourne College, Birmingham.
Dresser, B. F.	Middleton School, Bognor.
[2]Freer, C. C.	Brookleigh House, Barrowden.
Hall, G. P.	Comm. S., Lancaster Rd., Uxbridge
Hambly, E. R.	Grammar School, Hayle, Cornwall.
Ide, F. G.	St. Aubyn's, Woodford Green.
Jenkins, W. H.	Gelligaer County School.
[2]Lees, W. E.	Abbey House School, Tewkesbury.
Middleton, J. W.	The Grammar School, Towcester.
Miller, P. G.	Barton School, Wisbech.
Pettitt, H. J. A.	The School, Eaton Socon.
Read, N.	Aston Hall, Prestonbrook, Cheshire.
Rushton, J. F.	Brixton Grammar School, S.W.
Sanderson, F. N.	Aston Hall, Prestonbrook, Cheshire.
Smith, F. H.	Dagmar House School, Hatfield.
Smith, W.	Rawlin's S., Quorn, Loughborough.
Walker, H.	Holt House School, Cheshunt.
[2]Anderson, G. G.	Brunswick House, Maidstone.
Crickmay, J. G.	Bourne College, Birmingham.
[2]Ashby, M. W.	St. Paul's School, West Kensington.
Astle, H.	People's College, Nottingham.
Barker, W. B.	Elmfield College, York.
[2]Bartlett, L. S.	Wilton House, Sidwell Street, Exeter.
Burroughes, H.	Edward VI. Middle School, Norwich.
Butler, W.	Wilsford House School, Devizes.
Evans, N. K.	Wellington College, Salop.
[2]Gledhill, J.	The College, Gildersome, Leeds.
Griffin, G. R.	Bourne College, Birmingham.
[2]Hartley, F.	Leeds Church Middle Class School.
Hart, S.	Gillingham Grammar School.
[2]Harvie, H. E.	Uxbridge Preparatory School.
Hibberd, S. S. A.	Wilton School, near Salisbury.
[2]Hocken, H.	Emanuel S., Wandsworth Common.
[2]Jell, P. G. E.	Lancaster College, West Norwood.
[2]Keily, C. L.	East Cliff School, Bournemouth.
Manderson, L. A.	Marlborough Grammar School.
Marwick, W. E.	High School, Corbridge-on-Tyne.
[2]Maule, R. H.	Park School, Wood Green, N.
[2]Newton, J. E.	People's College, Nottingham.
Phillips, W.	Commercial S., Clare St., Penzance.
Pinn, H. C. S.	Eastbourne Old School.
Preston, H. G. W.	Ellesmere School, Harrogate.
Roynon, G. E.	Wilsford House School, Devizes.
Sandercock, J. E.	Wingfield House, Dover.
Thomson, H. J.	Kendrick Boys' School, Reading.
Tooley, H. R.	Edward VI. Middle School, Norwich.
[2]Vivian, J. H.	High School, Cambourne.
Williams, W. A.	Gelligaer County School.
Williams, W. A.	Wilsford House School, Devizes.
Wright, H. B.	Farnworth Grammar School, Widnes.
[2]Arden, W. R.	Hill Rise House, Richmond, S.W.
Basset, E. A. *f.*	Cliftonville College, Margate.
Bluett, W.	Hart House School, Burnham Som.
[2]Bond, J. E. O.	The Huish School, Taunton.
[2]Clark, D'A. M.	Hill House, Folkestone.
Clark, S.	New Hall Coll., Sutton Coldfield.
[2]Cross, W. G.	Private tuition.
Doll, W. H. M.	Grenville School, Queen Sq., W.C.
[2]Dollie, M. O.	Private tuition.
[2]Gale, P.	Royal Grammar S., High Wycombe.
Gay, W. A.	The High School, Romford.
Glover, A. K.	Emanuel S., Wandsworth Common.
Harvey, A. A.	Banbury School, Oxon.
Howell, H. L.	Gravesend Modern School.
Jones, A. M.	Stoke Newington Collegiate S., N.
Keeling, C. B.	Victoria College, Congleton.
Kent, E. C.	Harleigh House School, Bodmin.
Klitgaard, C. J.	Sandyford Academy, Newcastle-on-T
Marks, W. W.	Gelligaer County School.
[2]Pemberton, J. W.	Prætoria House School, Folkestone.
Piggott, E. A.	St. George's College, Wimbledon.
Taylor, W.	Dagmar House School, Hatfield.
Thorne, E. G.	Swindon High School.
[2]Ward, H. G.	Penketh Friends' School, Warrington.
Weaver, C. Y.	Rhodes House School, Manchester.
[2]Wills, G. H. A.	St. Paul's School, West Kensington.
[2]Wood, L. E.	The School, Gunnersbury.
Atherton, J. H.	Oakes Institute, Walton, Liverpool.
Austin, M. G.	Alresford House, Margate.
[2]Bell, D. C.	Wirral College, Rock Ferry.
[2]Briant, W. H. C.	Willow House College, Walsall.
[2]Bryan, D. T.	Anerley College, Anerley, S.E.
Boddam-Whetham,	A.C. Bowood House S., Leamington.
[2]Bolton, E. R.	Private tuition.
Buggs, F.	Borden School, Sittingbourne.
Bowmaker, O. J.	St. John's College, Southend.
Dover, C.	Ilfracombe College.
Gillman, J. G.	Wingfield House, Dover.
[2]Guillet, C. J.	Cavendish House, Hammersmith.
Gurton, A.	Emanuel S., Wandsworth Common.
Harding, J. P.	Herne Bay College.
[2]Hurlbutt, P. E.	Anerley College, Anerley, S.E.
Klang, Mom Chai.	Eastbourne College.
[2]Lanyon, H. J.	Lucton School, Henfield, Sussex.
[2]Lloyd, F. C.	Merivale, Bexhill.
[2]Lloyd, H.	Penketh Friends' S., Warrington.
[2]Metcalfe, B. T.	Belgrave House, Littlehampton.
Poulter, P.	Ivel Bury School, Biggleswade.
Rees, W. A.	Ilfracombe College.
Rumbold, R.	Egerton Park College, Bexhill.
[2]Smith, C. F.	Barton School, Wisbech.
Smith, G.	Oakes Institute, Walton, Liverpool.
Vivian, H. F.	Grammar School, Hayle, Cornwall.
Wade, P. J.	Wimbledon Collegiate School, S.W.
Webb, C. J.	Guildhall Mid. S., Bury St. Edmunds.
[2]Wild, R. P.	Park Hurst, Buxton.
[2]Alexander, J.	Private tuition.
Arbuckle, H. W.	Marlborough Coll., Tue Brook, L'pool.
Barker, A. E. S.	Osborne High S., West Hartlepool.
[2]Brown, W. H.	Cavendish House, Hammersmith.
Capon. G. W.	Edward VI. Middle School, Norwich.
Cawthorne, L.	Thorne Grammar School, Doncaster.
Clark, R. M.	Wingfield House, Dover.
Constantinides, A.	St. John's College, Southend.
Cox, G. H. S.	Stanley House, Margate.
Crook, A. H.	Woolston College, Southampton.
Cutting, A. G.	Theobald's Gram. S., Needham Mkt.
[2]Dixon, F.	Plympton Grammar School, Devon.

BOYS, THIRD CLASS—*Continued.*

[2]Ellis, J. W.	Needham's School, Ely.
Gaunt, R.	Leeds Church Middle Class School.
Glass, A. J.	Wilsford House School, Devizes.
Glover, E. A.	Emanuel S., Wandsworth Common.
Goodwin, F. O.	Boys' High School, Shrewsbury.
[2]Haigh, G. H.	The Crossley and Porter S., Halifax.
Hallett, S.	St. John's College, Southend.
Harrison, H. N.	Etonhurst, Weston-super-Mare.
Inkster, R. L.	Oakes Institute, Walton, Liverpool.
[2]Jenkin, F. C.	The Abbey School, Penzance.
[2]King, C. E. H.	Victoria College, Hornsey Rise, N.
[2]Lapthorne, A. E.	Manor House, Clapham.
[2]Linscott, J. H. S.	Woodford House S., Birchington.
McIntyre, G. D.	Harrogate College.
Morgan, S. D.	Marlborough Coll., Tue Brook, L'pool.
Norton, C. D.	Polytechnic Intermediate School, W.
Padfield, H. E.	Abbey House School, Tewkesbury.
Payne, F.	St. Nicholas Com. S., E. Dereham.
Plowman, W. H.	Stoke Newington Collegiate S., N.
[2]Pollock, N.	Ilkley College, Ilkley, Yorks.
[2]Skeflington, N.	Belsize School, South Hampstead.
Tassell, C.	Wilsford House School, Devizes.
Vereker, M. C. P.	Stranraer School, Fareham.
Watson, C. S. O.	Newcastle Modern School.
[2]Armitage, J. J.	Private tuition.
[2]Bing, R. H.	Mercers' School, E.C.
[2]Bradfield, H. M.	Wallingford Grammar School.
Butler, B. B.	Castle Hill School, Ealing.
Oakley, P. J.	Inglefield House S., Highbury, N.
[2]Clark, G. M.	Hill House, Folkestone.
[2]Cleminson, C. L. O.	Manor House, Clapham.
Comer, D. W.	Saham College, Watton, Norfolk.
Crawford, W. C.	Dane Hill School, Margate.
[2]Dobson, D. N.	Finchley High School, N.
[2]Edwards, T. W.	Gelligaer County School.
Foster, H.	People's College, Nottingham.
Gale, H.	E. Devon Co. S., Sampford Peverell.
Hall, G.	11 Scarisbrick Street, Southport.
[2]Heaton-Smith, E. B.	Park Hurst, Buxton.
Hince, L.	Wellington College, Salop.
Hopkins, F.	Gelligaer County School.
[2]Ingram, F. G.	Upland College, Stoke Newington.
Isaac, C. H.	Polytechnic Intermediate School, W.
Jones, J. H.	The City of London School, E.C.
King, A.	The College, Weston-super-Mare.
[2]Manley, E. F. H.	Emwell House School, Warminster.
Mason, W. R.	Ongar Grammar School.
[2]Milburn, E.	Ilkley College, Ilkley, Yorks.
[2]Montgomery, T.	Ilkley College, Ilkley, Yorks.
Nichols, H. F.	Earl's Colne Grammar School, Essex
[2]Palmer, F. T.	Eagle House Coll., Stamford Hill, N.
[2]Pinney, A. E.	Forest House School, Leytonstone.
Pope, H. B.	Ivel Bury School, Biggleswade.
Prichard, T.	Gelligaer County School.
Richardson, C.	Colebrook House School, Bognor.
Rose, W.	Park Hurst, Buxton.
Rushton, H.	The Grammar School, Blackpool.
Saunders, G. C.	Mary St. House School, Taunton.
Savage, E. F.	Brunswick House, Maidstone.
Shapley, G. H.	Grammar School, Shoreham.
[2]Smith, A. E.	Ashley House School, Worksop.
[2]Sugg, P. H.	Balham School, S.W.
[2]Thomas, H. E.	Private tuition.
[2]Thomson, C. H.	Finchley High School, N.
Tory, M. N.	Poyntington School, Bournemouth.
Walker, W. E.	Barnstaple Grammar School.
Mangles, R. N.	Easingwold Grammar School.
Wilson, G. E.	Battersea Grammar School, S.W.
[2]Winters, G. W.	Read's School, Drax, Selby.
[2]Yates, T. B.	Surrey House School, Margate.
[2]Abbott, G. A.	East Anglian S., Bury St. Edmunds.
Bird, E.	Grammar School, South Shields.
Byrne, H.	St. John's Royal Latin S., Buckingham.
Clayton-Russell, J. R.	Dane Hill School, Margate.
[2]Cole, W. H.	Castle College, Guildford.
[2]Collett, H. E.	Private tuition.
[2]Fligelstone, I.	Tivoli House School, Gravesend.
[2]Frodsham, F. L.	Central Hill Coll., Upper Norwood.
Frost, R. C.	Selhurst Pk. Coll., South Norwood.
[2]Goundry, B. D.	Warwick House School, Southsea.
[2]Harrisson, J. A.	Wirral College, Rock Ferry.
[2]Hartley, B. A.	Penketh Friends' School, Warrington.
Hibberd, R. J.	Stoke Newington Grammar School.
Hooke, S.	Caversham House School, Reading.
[2]Langdon, C. J.	The Huish School, Taunton.
Lavington, W. C.	Winchester House, Redland, Bristol.
Luccraft, R. W.	Gravesend Modern School.
Mann, P. J.	Harlesden College, N.W.
Müller, L.	Prætoria House School, Folkestone.
Mills, H. G.	Midhurst Grammar School.
[2]Mitchell, H. E.	Stoke Newington Grammar School.
Molyneux, A. M.	Walden House School, Herne Bay.
Murray, G. C.	Devonport High School.
Murray, W. S.	Apsley House School, Margate.
Nasbet, N.	Argyle House School, Sunderland.
Pearce, E. H.	Winchester House, Redland, Bristol.
[2]Radley, E. L.	Selhurst Park College, S. Norwood.
Simmons, G. E.	Highfield School, Chertsey, Surrey.
Smith, E.	Loughton School, Essex.
Soulby, H.	Oakes Institute, Walton, L'pool.
[2]Stevens, F. M.	Vickery's, Southsea.
Towers, J. W.	Tanyrallt, Pontardawe.
[2]Way, W. H.	Grammar S., Camelford, Cornwall.
[2]Weir, H. M.	The High School, Brentwood.
[2]Wilson, S. S.	The Grammar School, Eccles.
Alexander, G. R.	The Grammar School, Eccles.
Bowditch, T.	Loughton School, Essex.
Bradfield, W. H.	Wallingford Grammar School.
[2]Byrne, T. F.	Claughton Coll. S., Birkenhead.
Clarke, E.	Wellington College, Salop.
Clarke, F. W.	The Grammar School, Towcester.
Cothay, F. H.	Argyle House S., Sunderland.
Daw, A.	Sidcot School, Winscombe, Som.
[2]Deacon, H. J.	Swindon High School.
Draper, J. A.	Churchfield House, Runcorn,
Ewer, D.	Colebrook House School, Bognor.
[2]Findlay, A. R.	Archbishop Holgate's School, York.
Fish, T. P.	Winchester House, Redland, Bristol.
Gardner, E. C.	Swindon High School.
[2]Green, H.	High School, Finchley Road, N.W.
[2]Hickley, T. B.	Private tuition.
[2]Hobbs, F. W.	Warwick House School, Southsea.
[2]Holden, F. C.	Park Hurst, Buxton.
Kirby, F.	Swindon High School.
Lane, S.	New Hall Coll., Sutton, Coldfield.
[2]Langston, W. L.	Kendrick Boys' School, Reading.
Makeham, H. E.	King's College, Wimbledon.
Marten, P. B.	Sudbury Grammar School, Suffolk.
[2]Morrison, E. G.	Harrogate College.
Neesham, J. W.	Collegiate School, Bishop Auckland.
Neilson, W. C.	St. Catherine's Coll., Langland Bay.
Nicholas, H.	Edgbaston Academy, Birmingham.
Perkins, H.	Barton School, Wisbech.
Pethybridge, W. B.	Ongar Grammar School.
Pilcher, E.	Godwynehurst, Dover.
Rayner, F. W.	Polytechnic Intermediate S., W.
Redman, F. B.	Woolston College, Southampton.
[2]Stanning, S. T.	Devonport High School.
[2]Trainor, C. N. G.	The College, Gildersome, Leeds.
[2]Tull, F. G.	Emanuel S., Wandsworth Common.
Welch, O. W.	Gosberton Hall, Spalding.
Alford, J. H. P.	Mary St. House School, Taunton.
Bowmaker, E. V.	St. John's College, Southend.
Cable, W. A.	Brunswick House, Maidstone.
Chamberlain, W. E.	Loughton School, Essex.
Charlesworth, R. W.	Victoria College, Congleton.
[2]Clare, C.	Birkenhead Institute.
[2]Cooke, R. C. H.	Private tuition.
Cox, A. T.	High Park Hall College, Ryde, I.W.
[2]Denham, R. I.	Harrogate College.
Clement, F.	Emanuel S., Wandsworth Common.
[2]Elliot, N.	Ilkley Cottage, Ilkley, Yorks.
Gibbings, W. W.	Mount Radford School, Exeter.
[2]Gwynne, L. H.	Cavendish College, Southampton.
Hayworth, W. P.	Stoke Newington Grammar School.
Holland, E. W. H.	Salvandy Terrace School, Jersey.
Jones, E. W.	Victoria College, Congleton.
Jones, J. W. F.	Castle Hill School, Ealing.
[2]Lewis, H.	Collegiate School, Grimsby.
Lewis, S. R.	The High School, Merthyr Tydfil.
[2]Martin, W. A.	Handel College, Southampton.
Mason, A. D.	St. Kenelm's College, Cowley, Oxford.
[2]Miles, A. E.	Castle College, Guildford.
[2]Nicholson, B.	Ashley House School, Worksop.
[2]Patmore, D.	St. Paul's School, West Kensington.
Reeve, W.	St. Leonards Collegiate School.
[2]Sawtell, E. J.	Kingston School, Yeovil.
Strickland, G. F.	Ebor School, Bexhill.
Tanner, R. F.	Milton College, Ullesthorpe.
Thatcher, J. J.	Winchester House, Redland, Bristol.
Walder, J. T.	Tudor Hall, Hawkhurst.
Williams, G. W. A.	Wellington College, Salop.
[2]Wyatt, C. P.	Manor House, Clapham.
Adams, C.	Eastbourne Old School.
Agar, A. F.	Grafton House School, Manchester.
Allen, P.	East Anglian S., Bury St. Edmunds.
[2]Benson, A. V.	Elswick Institute, Lewisham, S.E.
Callf, G. S.	Southdown College, Eastbourne.
Chamings, E. E.	Emanuel S., Wandsworth Common.
Chippendale, R.	Leeds Church Middle Class School.
Cooke, J. M.	Clapham Collegiate School, S.W.
Cutter, A. C.	Grammar School, Knutsford.
Cutting, E. J.	Theobald's Gram. S., Needham Mkt.
Dadd, H. J.	Cheveley Hall, Plymouth.
Darby, E.	E. Devon Co. S., Sampford-Peverell.
Darby, W. S.	Bourne College, Birmingham.
De Greayer, H. G.	Private tuition.
[2]Dykes, T.	Private tuition.
Evans, J. B.	The High School, Merthyr Tydfil.
Farmery, A. E.	Archbishop Holgate's School, York.
[2]Fearnside, J. A.	Archbishop Holgate's School, York.
Gay, W. J.	The High School, Romford.
Goodliffe, G. V.	Prætoria House School, Folkestone.
Hayward, A. W. T.	Wellesley College, Long Eaton.
Hodgson, N. M.	Grammar School, South Shields.
Johnson, A. L.	High School, Barnsley.
Jones, S. C.	Wellington College, Salop.
Lenthall, J. K.	Netherhampton House S., Salisbury.
Limon, V. C.	East Anglian S., Bury St. Edmunds.
[2]Lowe, W. S. E.	Private tuition.
[2]Macdonald, P. B.	St. Paul's School, West Kensington.
Manfield, W. G.	Netherhampton House S., Salisbury.
Morris, W. H.	Wilton School, near Salisbury.
[2]Noble, D. J. D.	Surrey House School, Margate.
Philipps, A. W.	Godwynehurst, Dover.
Powney, H. F.	Wilsford House School, Devizes.
Rees, W. H.	Gelligaer County School.
Robinson, C. C.	Elmfield College, York.
Runting, E. A.	Huntingdon House S., Teddington.
Sargent, W. R.	Lucton School, Herefordshire.
[2]Stansfield, W.	Private tuition.
Stone, W.	Belsize School, South Hampstead.
Sturges, E. L.	Wellington College, Salop.
Thornton, E.	Leeds Church Middle Class School.
[2]Trude, H. J.	Private tuition.
[2]Walters, H. J.	Gelligaer County School.
Watkins, T. J.	Gelligaer County School.
Watson, W. R.	Oakes Institute, Walton, Liverpool.
Wilson, F.	Longton Endowed School, Staffs.
Acomb, C. G.	The High School, Merthyr Tydfil.
Black, G.	New Hall College, Sutton Coldfield.
Blake, M.	Catholic College School, Lytham.
Blyth, F. E.	Ascham College, Clacton-on-Sea.
Buckley, T.	Stamford Hill Collegiate School, N.
[2]Chapman, C. E.	Borden School, Sittingbourne.
[2]D'Aguilar, C. S.	Grosvenor School, Bath.
Dean, A. R.	Herne Bay College.
[2]Dixson, L. L.	Cliftonville College, Margate.
[2]Ellison, E. W.	New Hall College, Sutton Coldfield.
Evans, S. M.	Boys' High School, Shrewsbury.
[2]Hudd, A. E.	The Grammar School, Blackpool.
[2]Hullnock, H.	High School, Finchley Road, N.W.
Knight, E. Y.	Guildhall Mid. S., Bury St. Edmunds.
[2]Lewis, G. A.	Montgomery Coll., Sharrow, Sheff'ld.
Mantle, W. E.	Gelligaer County School.
Mason, H.	Read's School, Drax, Selby.
Millar, T. S.	Polytechnic Intermediate School, W.
Monckton, C. S.	Devonport High School.
[2]Moody, M.	Arnold House School, Chester.
Parry, E. W.	Lyttelton Grammar S., Gt. Malvern.
Peirce, A. M.	Aston Hall, Prestonbrook, Cheshire.
Philo, H. R.	Saham College, Watton, Norfolk.
Pollard, C.	Leeds Church Middle Class School.
Pontifex, H. W.	The College, Highbury New Pk., N.
Richardson, H. M.	Boys' Coll. and High S., Southampton.
Ridley, C. A.	Eastbourne Old School.
Rogers, G. L.	Loughton School, Essex.
Rowe, J. S.	High School, Camborne.
[2]Schofield, F.	Park School, Wood Green, N.
Todd, A. H.	Knowsley, Torquay.
Tomkins, H. W.	Stoke Newington Grammar School.
Tomlinson, T. Mc. N.	Claremont College. Blackpool.
[2]Wood, W. L.	The College, Gildersome, Leeds.
Woodford, F.	Aston Hall, Prestonbrook, Cheshire.

THIRD CLASS.—2ND DIVISION.

Ballantyne, J. R.	Holt House School, Cheshunt.
Baller, E. G.	Battersea Grammar School, S.W.
Blaker, A. E.	Egerton Park College, Bexhill.
Bliss, H. A.	Dagmar House School, Hatfield.
[1]Boyd, J. E. M.	Grosvenor School Bath.
Brash, T.	King's College, Wimbledon.
Brent, E. C.	Stranraer School, Fareham.
Burgess-Smith, A. B.	St. John's College, Southend.
[2]Campton, N. J.	Private tuition.
Chase, H. P.	Lucton School, Herefordshire.
Clark, D. G.	Wingfield House, Dover.
[2]Cox, H. J.	The Philological School, Southsea.
[2]Dorey, L. G.	Salvandy Terrace School, Jersey.
Evans, P. R.	Winchester House, Redland, Bristol.
Faller, A. A.	Battersea Grammar School, S.W.
Fenton, C. M.	The College S., Huyton, Liverpool.
Gardner, F. C. S.	St. Kenelm's Coll., Cowley, Oxford.
Gray, S.	St. Nicholas Comm. S., E. Dereham.
Hayward, A.	Ebor School, Bexhill.
[2]Horrocks, S.	High School for Boys, Bolton.
[2]Ibbs, R. J.	Leeds Church Middle Class School.
Jenkins, H.	New Hall College, Sutton Coldfield.
Jones, G. C.	Wellington College, Salop.
Lewis, E. A.	Belmont House S., Up. Tooting, S.W.
Michell, W. L.	Grammar School, Hayle, Cornwall.
Mullett, R. S. B.	Cowes Grammar School.
Naismith, K. E.	Rhodes House School, Manchester.
[2]Ollivier, G. L.	Winchester House, Southampton.
Orchard, E. W.	Reading Collegiate School.
Rayner, J. L.	Stanley House, Margate.
Reed, B. D. P.	Emanuel S., Wandsworth Common.
Rogers, R. W.	Donegal House, St. Kevern.
Scammell, T. E.	Winchester House, Redland, Bristol.
Simpson, T. H.	Victoria College, Congleton.
Spencer, C. E.	Dr. Morgan's School, Bridgwater.
Stops, T. S.	The Grammar School, Towcester.
[2]Sugg, A. A.	Balham School, S.W.
[2]Taylor, N.	Belgrave House, Littlehampton.
Thomas, A.	Commercial S., Clare St., Penzance.
Twort, C. C.	Modern School, Woking.
Tyrrell, T. A. F.	Private tuition.
Van-Lessen, R.	Holt House School, Cheshunt.
Watts, T. F.	St. John's Roy. Latin S., Buckingham.
Weaver, L. B.	St. George's College, Wimbledon.
Merewether, W.	Clyde House, Hereford..
Westbrook, R.	Grove House School, Highgate.
Ashford, A. W.	Collegiate School, Bridgwater.
Balls, H. W.	East Anglian S., Bury St. Edmunds.
Bateman, A. J.	Stoke Newington Collegiate School, N
Braggins, S.	Banbury School, Oxon.
[2]Browne, G. F.	Emanuel S., Wandsworth Common.
[2]Brunger, A.	Priory House School, Bridlington.
[1]Bundle, L. F.	The College, Churwell, Leeds.
Burrows, F.	Belmont House S., Up. Tooting, S.W.
Colson, W. H.	Guildhall Mid. S., Bury St. Edmunds.
Cox, A. B.	Hart House S., Burnham, Somerset.
Donaldson, J. W.	Collegiate School, Bishop Auckland.
Dowling, W. E.	West Cliff School, Ramsgate.
[2]Drake, H. M.	The Crossley and Porter S., Halifax.
Edwards, R. F.	Devizes College, Devizes.
Evans, W. T.	Tanyrallt, Pontardawe.
Farish, T. T.	Wellington College, Salop.
Garrett, M. H.	Wykeham House S., West Hampstead
[2]Greenfield, H. H.	Warwick House School, Southsea.
[2]Green, P.	Emanuel S., Wandsworth Common.
[2]Hachforth, H.	Harrogate College.
Hadland, W.	Redland Grove College, Bristol.
[2]Hills, W. V.	Private tuition.
Holmes, E. A.	High Park Hall College, Ryde, I.W.
Humphry, W. B.	Prætoria House School, Folkestone.
Huntriss, R.	Private tuition.
[2]Jenkins, L. R.	Tanyrallt, Pontardawe.
[2]Joyce, E.	Devonport High School.
Kirby, S. M.	Gravesend Modern School.
[2]Larkin, A.	Ellesmere College, Eastbourne.
Martin, A. E.	Gravesend Modern School.
Morgan, L.	St. John's College, Southend.
Mumford, F.	Sycamore Hall, Goldsithney.
[2]Murray, G. G.	Lancaster College, West Norwood.
[2]Nelson, A. J.	King's College, Strand, W.C.
[2]Parker, A.	Whitby Middle Class School.
Pask, A.	Ashley House School, Worksop.

BOYS, THIRD CLASS—*Continued.*

Pitcher, S.	Devonport High School.
Powell, R. R.	Paragon House School, Norwich.
Reed, H. S.	Kendrick Boys' School, Reading.
[2]Robson, T.	Birkenhead Institute.
Salter, S.	Springfield College, Acton Hill.
Seale, E. J.	Gravesend Modern School.
[2]Serle, F. J.	The Huish School, Taunton.
Spencer, R.	Penketh Friends' S., Warrington.
Stammers, P. A.	Emanuel S., Wandsworth Common.
Tannton, W. L.	GroveHouse S., St. Helier's, Jersey.
Tibbetts, A.	British School, Stony Stratford.
[2]Townshend, W.	Lonsdale House, Moseley, B'ham.
Treen, H. J.	St.John'sRoy.LatinS.,Buckingham.
Tudball, T. B.	Castle Hill School, Ealing.
[2]Turner, T. H.	Milton College, Ullesthorpe.
[2]Vickers, A. E.	Oakes Institute, Walton, Liverpool.
Vosper, S.	Trowbridge High School.
Young, A.	Claremont College, Blackpool.
[2]Wallis, R. W. D.	St. Catherine's, Littlehampton.
Addison, J.	High School, Corbridge-on-Tyne.
Annett, A.	Kendrick Boys' School, Reading.
[2]Batchelor, C.	Hendon Preparatory School.
Bennett, T. C.	Victoria College, Congleton.
Bluett, L. B.	Balham School, S.W.
Brassey, J.	MarlboroughColl.,TueBrook,L'pool.
Buckmaster, F. H.	Apsley House School, Margate.
Butler, A. J.	Wilsford House School, Devizes.
[2]Cairns, W. H.	Emanuel S., Wandsworth Common.
Caley, W. M.	Southport Modern School.
[1]Collins, G. N.	Grammar S., Camelford, Cornwall.
Davis, W. J.	Oakes Institute, Walton, Liverpool.
Day, E. C.	StranraerSchool, Fareham.
Day, J. H.	The Huish School, Taunton.
Duncan, N. A.	Stoke Newington Grammar School.
Earl, G. K.	Towcester School.
[2]Fairweather, C.W.	VictoriaS.Jesmond,Newcastle-on-T.
[2]Fay, L. H.	West Brighton High School
[2]Fuller, A. N.	University School, Reigate.
Gilbert, P. H.	Emanuel S., Wandsworth Common.
Harbord, C. G.	Edward VI. Middle School,Norwich.
Harrison, H. W.	Huntingdon House S., Teddington.
[2]Hislop, R. C.	Birkenhead Institute.
Hooper, P. J.	Ilfracombe Grammar School.
James, R. S.	Sidcot S., Winscombe, Somerset.
Kelly, J.	St.John'sRoy.LatinS.,Buckingham.
Lewis, E.	St. Leonards Collegiate School.
[2]Lowsley, S. E.	Private tuition.
Maquire, B.	Ilkley College, Ilkley, Yorks.
Meek, S.	The Choir School, Edinburgh.
Miles, F. B.	Cleveland House School, Salisbury.
Murless, C. H.	Wellington College, Salop.
Nesmyth, H. D.	Highfield School, Chertsey, Surrey.
[2]Philcox, P. V.	Lancaster College, West Norwood.
[2]Piyah, Sunpang *d.*	Wellington College, Berks.
Rowe, J. J.	Cleveland House School, Salisbury.
Rowe, R. W. H.	Mount Radford School, Exeter.
Shaw, G.	Holm Leigh School, Buxton.
Sparks, F. A.	St. Kenelm's Coll., Cowley, Oxford.
[2]Wade, H.	Hart House S., Burnham, Somerset.
Warner, J. E. T.	Grammar School, Knutsford.
Watkins, W.	Lucton School, Herefordshire.
[2]Webb, J. T.	Devon House, Bognor.
Whaley, E. S.	East Anglian S., Bury St.Edmunds.
Willjams, F.	Gelligaer County School.
Wood, A. B.	Etonhurst, Weston-super-Mare.
[2]Wright, W. O.	Trade and Grammar S., Keighley.
Air, R. J.	Selhurst Pk. Coll., South Norwood.
Aria, A. H. D.	Polytechnic Intermediate School, W.
Bodmer, H.	Penketh Friends' S., Warrington.
Brett, A. J.	Prætoria House School, Folkestone.
[2]Burt, G. E.	Victoria College, Hornsey Rise, N.
[2]Church, F. H.	New College, Margate.
Darlow, C. L.	The College S., Huyton, Liverpool.
Egles, G. A.	Edward VI. Middle School, Norwich.
French, E. M.	Elmfield College, York.
[2]Goodland, R.	Hart House S., Burnham, Somerset.
Hallett, P. E.	Trowbridge High School.
Hobart, H. G.	Tottenham College, N.
[2]Hodge, W. L.	38 Tavistock Place, Plymouth.
Hutchinson, L. A.	Ongar Grammar School.
Johnson, F.	Banham Grammar School, Attleboro.
Johns, J.	Gelligaer County School.
Klein, H. A.	St. John's College, Southend.
[2]Leonard, S. U.	Borden School, Sittingbourne.
[2]Macer, L. W.	Needham's School, Ely.
[2]Moody, H. B.	SandyfordAcad.,Newcastle-on-Tyne
Murison, S. L.	Manor House College, Hastings.
[2]Northey, B. C.	Froebel House S., Stoke, Devonport.
Palmer, T. F.	Polytechnic Intermediate School, W.
Phillipps, J. T.	Formby&Freshfield HigherS., L'pool
[2]Rawson, W. I. S.	Private tuition.
[2]Ray, A. D. H.	Private tuition.
Reed, W. F.	Ascham College, Clacton-on-Sea.
[2]Righton, H. H.	The Douglas School, Cheltenham.
Rivers, H.	Stoke Newington Grammar School.
Roberts, H. O.	MarlboroughColl.,TueBrook,L'pool.
[2]Rowe, W. C.	Trowbridge High School.
[2]Scott, W. H.	Brighton Grammar School.
Sherwood, M. E.	St.Kenelm'sCollege,Cowley,Oxford.
[2]Smith, L. G.	West Brighton High School.
[2]Thomson, M.	Lewisham Park School, S.E.
Thornton, F.	Battersea Grammar School, S.W.
Tomlinson, J.	Lucton School, Herefordshire.
Tutill, H. L.	Lawn House S., Clapham Road, S.W.
[2]Walker, J.	Leeds Church Middle Class School.
Watkins, E.	Lucton School, Herefordshire.
[2]Arneil, H. M.	Boys' Coll. & High S., Southampton.
[2]Barlow, F.	Claremont College, Blackpool.
[2]Beer, J. C.	Birkenhead Institute.
[2]Betts, E. R.	Willesden High School, N.W.
[2]Blackmore, G. W.	Banham GrammarSchool, Attleboro.
Bosley, J. A.	Swindon High School.
[2]Burnett, G. C.	Private tuition.
[2]Cotton, W. G.	Kingswood School, Lansdown, Bath.
Deane, T. H.	Grammar School, Worthing.
Dunkerley, R.	D'Eresby House School, Ealing.
Eddowes, W. R.	Grammar School, Leek.
Edmenson, H. L.	Holloway College, N.
Edwards, C.	Clyde House, Hereford.
Fazan, D. A.	New College, Margate.
Fulker, E. R.	Collett House School, Bournemouth.
Gage, H. E.	New Cross Collegiate School, S.E.
[2]Habart, J.	Emanuel S., Wandsworth Common.
[2]Hadlow, A. V.	Lancaster College, West Norwood.
[2]Hayes, S.	The College, Lowestoft.
Hayward, W. J.	Battersea Grammar School, S.W.
Hill, H. C.	Northgate School, Winchester.
Holdgate, J. G.	Emanuel S., Wandsworth Common.
Howard, N.	East Anglian S., Bury St. Edmunds.
Hoyle, J. R.	Kendrick Boys' School, Reading.
Hughes, R.	West Cliff School, Ramsgate.
James, C. H.	Elveden, Clifton, Bristol.
Johnson, R.	Cambridge House School, Wigan.
[2]Jones, E. O.	Handel College, Southampton.
Jones, S. W.	Grammar School, Streatham, S.W.
Lockyer, H. A.	Handel College, Southampton.
[2]Marcuse, W. D.	Middleton School, Bognor.
Matthews, H. M.	Lucton School, Herefordshire.
Maystre, G.	Boys' High S., S. Shore, Blackpool.
Nercsheimer, L.	Belsize School, South Hampstead.
Plowman, A.	Bexley Heath College, Kent.
Protheroe, A. H.	Bristol Grammar School.
Remon, J. A.	Oxenford House School, Jersey.
[2]Ribeiro, J. R. C.	Wirral College, Rock Ferry.
[2]Roberts, S. B.	Deytheur Grammar S., Oswestry.
[2]Rolt, J. W.	Borden School, Sittingbourne.
Sessel, E. L.	Tivoli House School, Gravesend.
Stevens, P.	Winchester Ho., Redland, Bristol.
Taylor, F.	Cambridge House School, Wigan.
[2]Vawdrey, G. G.	Private tuition.
Vernon, A.	Newcastle Modern School.
[2]Aldridge, W.	Woodside House S., Sutton, Surrey.
Allen, W. S.	East Anglian S., Bury St. Edmunds.
Barley, R. F.	Melbourne House, Thornton Heath.
[2]Barry O'Brien, H.	Private tuition.
Bodden, A.	Victoria College, Congleton.
Bullock, W. A.	Betton House, Shrewsbury.
[2]Burnell, A. R.	Private tuition.
Carter, F. G.	Halstead Grammar School.
Clapton, H.	Harlesden College, N.W.
[2]Davies, T.	The Grammar School, Chepstow.
Fisher, E. G.	Elmfield College, York.
[2]Freestone, H. S.	Elm Bank School, Nottingham.
French, M. E.	Catholic Collegiate School, Lytham.
Frisby, A. G.	Eastman's R. N. Acad., Winchester.
Gillard, F. E. A.	Devonport High School.
[2]Griffin, E. P.	All Saints' Choir School, Clifton.
Harper, E.	Hill Rise House S., Richmond, S.W.
Hayter, F.	Emanuel S., Wandsworth Common.
Hinchliffe, H. C.	Victoria College, Congleton.
Holmes, H. E.	The Grammar School, Blackpool.
Humphreys, C.	Hart House S., Burnham, Somerset.
Jones, A. E.	The College S., Huyton, Liverpool.
Jones, W. H.	Elmfield College, York.
Kay, P. A.	Edgbaston Academy, Birmingham.
Kingston, A. H.	Emanuel S., Wandsworth Common.
[2]Number 134.	Private tuition.
Palmer, L.	Tottenham College, N.
[2]Phillips, B. A.	Wycliffe College, Stonehouse, Glos.
[2]Pike, R. S.	Emanuel S., Wandsworth Common.
Platt, J.	Leek Grammar School.
Rosser, H. J.	Christ's College, Blackheath.
Scarlett, J. E.	Battersea Grammar School, S.W.
Scotland, W. R.	Newcastle Modern School.
[2]Shaw, H.	Ashley House School, Worksop.
[2]Strange, W.	Ellesmere College, Eastbourne.
Taylor, R. V.	Kendrick Boys' School, Reading.
[1]Tennant, N. G.	Private tuition.
Townend, J.	Collegiate School, Bishop Auckland.
[2]Whitaker, A. H.	Hart House S., Burnham, Somerset.
[2]Wood, B. W.	Leylands School, Hornsea.
Adamson, H.	Claremont College, Blackpool.
Baker, W. H. J.	Wellington College, Salop.
Bonwick, H.	Polytechnic Intermediate School, W.
Borlase, E. M.	Harleigh House School, Bodmin.
Brereton, C. A.	High Park Hall College, Ryde, I.W.
Bridle, F. E.	St.John's Roy.LatinS.,Buckingham.
Brown, H. N.	"TheWoodroughs," Moseley, B'ham.
Cabuzet, E. L.	MarlboroughColl.,TueBrook,L'pool.
[2]Carter, W. R.	Private tuition.
Cock, W.	Wellington College, Salop.
Cranford, A. L.	Grammar School, Shoreham.
[2]Curtis, C. H.	Grammar School, Worthing.
Dalton, C. E.	New College, Margate.
Eldridge, E. E. B.	West Brighton High School.
Everall, L. W.	Battersea Grammar School, S.W.
Foot, E. S.	Kingston School, Yeovil.
Gidney, W. H.	Newcastle Modern School.
[2]Gray, A. E.	Emanuel S., Wandsworth Common.
Handy, T.	Private tuition.
Hastings, S.	Emanuel S., Wandsworth Common.
Hillier, H. G.	Cleveland House School, Salisbury.
Horsey, F. L.	Edward VI. Middle School, Norwich.
[2]Lancefield, G.	Poyntington School, Bournemouth.
Lander, R. G.	Devonport High School.
[2]Laver, E. C.	Bristol Grammar School.
Marchant, H. W.	Clapham Collegiate School, S.W.
McNeill, M. J.	Grammar School, East Finchley.
[2]Nettleship, W. G.	Manor House, Clapham.
Nicholls, P. A.	Bourne College, Birmingham.
Plowman, M.	Bexley Heath College, Kent.
Pounsford, W. S.	Grammar School, Shoreham.
Rickman, H. G.	Milton Abbas School, Blandford.
Roddick, J. S. S.	Loughton School, Essex.
Scott, H.	West Brighton High School.
[2]Spicer, A.	Dane Hill School, Margate.
Stocker, T. W.	The School, Eaton Socon.
Sutherland, J. P.	Oakes Institute, Walton, Liverpool.
Webster, K. B.	Boys' High School, Shrewsbury.
Wheeler, E. S.	Highfield, Wandsworth Common.
Williams, M. S.	Penketh Friends' S., Warrington.
Wykes, P.	Rawlin's S., Quorn, Loughborough.
Atkinson, W.	Elmfield College, York.
Atlay, A. J.	Higher Grade School, Selby.
[2]Bailey, P. G.	Willesden High School, N.W.
Banks, H. K.	Cheveley Hall, Plymouth.
[2]Barmby, J. H.	St. Martin's Gram. S., Scarborough.
Beale, A. C.	Emanuel S., Wandsworth Common.
Blake, E. A. V.	Wilsford House School, Devizes.
[2]Boughton, F.	Devonport High School.
Burrowes, P. G. E.	Willesden High School, N.W.
[2]Collins, F. T.	The College, Walton-on-the-Naze.
Day, W. A.	The College, Weston-super-Mare.
D'Earle, H.	Balham School, S.W.
Drummond, A. D.	Walden House School, Herne Bay.
Eastwood, W.	St. Nicholas Comm. S., E. Dereham.
Elkins, A. M.	Deytheur Grammar S., Oswestry.
File, S. W. E.	Brunswick House, Maidstone.
Forster, C. F.	Edward VI. Middle School, Norwich.
Gardner, R. L. W.	Pierremont College, Broadstairs.
[2]Gordon, J. H.	Ashford Grammar School, Kent.
Greenall, A.	Holt House School, Cheshunt.
[2]Green, W. E.	Private tuition.
[2]Griffiths, G.	Private tuition.
[2]Hall, M.	St. Mary's Hall, Cardiff.
[2]Hall, W. J.	Gillingham Grammar School.
Hazlewood, H. A.	Holloway College, N.
Heaphy, T. F. M.	Emanuel S., Wandsworth Common.
Hunt, C. E.	Dr. Morgan's School, Bridgwater.
Kell, W.	High School, Barnsley.
Kenyon, G. H.	Seven Thorns, Fairfield, M'chester.
Lamble G.	High School, Christchurch, Hants.
[2]Lister, S.	Private tuition.
[2]Luce, S. P.	Oxenford House School, Jersey.
McSherry, G.	People's College, Nottingham.
Medina, H. C.	Manor House College, Hastings.
[2]Merrett, E. A.	Woodside House S., Sutton, Surrey.
Misdall, H. A.	E. Anglian S., Bury St. Edmunds.
Morley, H. H.	People's College, Nottingham.
Newman, A. F.	Laugharne School, Southsea.
Newman, A. W.	Higher Grade School, Selby.
[2]Odam, H. J.	Lipson School, Plymouth.
Page, E. C.	Towcester School.
Rickie, J.	Grammar School, Belper.
Roberts, H. D.	St. Mary's Hall, Cardiff.
Stocken, W. E.	Hurst Lodge School, East Putney.
[2]Sturt, C. J.	Mary St. House School, Taunton.
[2]Thomlinson, H. H.	Rhodes House School, Manchester.
Vincent, H. C.	Wilton School, near Salisbury.
Wallace, J. W.	The Grammar School, Towcester.
Waugh, S. R.	The Ferns, Henley-on-Thames.
Weston, F. G.	Christ's College, Blackheath.
[2]Aurelius, T.	Gelligaer County School.
Barber, G. W.	Manor House, College, Hastings.
Barnet, A. R.	The Coll., Highbury New Park, N.
Belcham, H.	New Cross Collegiate School, S.E.
Bellerby, W. J.	Harrogate College.
Brown, W. W.	Brunswick House, Maidstone.
Dawson, P. A.	Banbury School, Oxon.
Dipple, H. F.	Cliftonville College, Margate.
Ereaut, H. P.	Beaumont House School, Jersey.
Fisher, P.	Oxford House School, St. Albans.
Friedeberg, R.	Spenser College, Wimbledon.
Griffiths, G. S.	Edward VI. Middle School, Norwich.
[2]Harvey, P. T.	Catford Collegiate School, S.E.
Harrow, T. W.	Oakes Institute, Walton, Liverpool.
Heatley, R.	Wellington College, Salop.
Hewett, G. R.	Emanuel S., Wandsworth Common.
[2]Jackson, H.	Rhianva College, Hunstanton.
Kemp, W. H.	Campbell House School, Bristol.
Sanderson, H. E.	Lewisham Park School, S.E.
Lockwood, F. M.	Lancaster College, West Norwood.
Longland, F.	Swindon High School.
Magowan, H. B.	Emanuel S., Wandsworth Common.
[2]McDougall, H.	Eastbourne Old School.
[2]Murrell, B. P. J.	Betton House, Shrewsbury.
[2]Newman, J.	Ivel Bury School, Biggleswade.
Nichols, F. C.	Winchester House, Redland, Bristol.
[2]Nixon, R.	Birkenhead Institute.
[2]Osborn, F.	Brunswick House School, Windsor.
Pilgrim, J. H.	Banham GrammarSchool, Attleboro.
Rushworth, T. S.	Melbourne House, Thornton Heath.
Simpson, C. S.	New College, Margate.
Smith, W. F.	Apsley House School, Margate
Sutcliffe, W. F.	Winchester House, Redland, Bristol.
Tivendale, T.	The College, Highbury New Park, N.
Thompson, W. S.	Park Hurst, Buxton.
Walters, E.	Gelligaer County School.
Bird, D. G.	Private tuition.
Bodden, E.	Victoria College, Congleton.
Bray, E. H.	Beaumont House School, Jersey.
Cann, H.	Brean Villa S., Weston-super-Mare.
[2]Chisman, C.	Bailey School, Old Elvet, Durham.
[2]Cottrill, F. P.	Private tuition.
Dale, S. W.	Handel College, Southampton.
Deverell, H. E. C.	St.John'sRoy.LatinS.,Buckingham.
Dolton, R. W.	Kendrick Boys' School, Reading.
[2]Downing, F. G.	British School, Stony Stratford.
Drew, E. F.	Acton Commercial School.
Edwards, H. E.	Castle Hill School, Ealing.
[2]Ellis, R.	Eton House, Anerley Road, S.E.
Enoch, J.	St.John'sRoyalLatinS., Buckingham.
Eyles, W. S.	Trowbridge High School.
[2]Folliot, I. A.	Handel College, Southampton.
Goodman, E. A.	The High Sch., Weston-super-Mare.
Hall, P. H.	Huntingdon House S., Teddington.
Hodgson, A. J.	The College S., Huyton, Liverpool.
Hownam-Meek, S.G.	Trafalgar House, Lee-on-the-Solent.

BOYS, THIRD CLASS—*Continued.*

Jackson, E. R.	Oakes Institute, Walton, Liverpool.
[2]James, A.	Birkenhead Institute.
Kemp, P.	Emanuel S., Wandsworth Common.
[2]Lewis, A.	Archbishop Holgate's School, York.
Limon, R. M. M.	East Anglian S., Bury St. Edmunds.
List, J. B.	Barnstaple Grammar School.
Littlejohn, H. S.	Boys' Coll. and High S., Southampton.
[2]Macanlay, R. W.	Jesmond College, Newcastle-on-T.
[2]Maddison, J. W.	Old Elvet School, Durham.
Money, R. G.	The College, Weston-super-Mare.
Morris, T. T.	Bickerton House School, Birkdale.
Nottage, W. H.	Upton School, Slough.
Pierce, H.	Middleton School, Bognor.
Ritson, E.	Oakes Institute, Walton, Liverpool.
Rowe, G. J.	High School, Camborne.
Scobie, A.	Woodgrange House, Forest Gate, E.
Scorror, P. J.	Ivel Bury School, Biggleswade.
Shareman, J. H.	Emanuel S., Wandsworth Common.
Streeton, W.	Polytechnic Intermediate School, W.
Taplin, J. H.	Willesden High School, N.W.
Tubbs, B. H.	Boys' Coll. and High S., Southampton.
Warry, R. G.	Etonhurst, Weston-super-Mare.
Andrews, H.	Emanuel S., Wandsworth Common.
Batterbee, H. L.	Elmfield College, York.
Beeny, E. J.	Earls Colne Grammar School, Essex.
Bethell, G. W. C.	Etonhurst, Weston-super-Mare.
[2]Blackburn, B. M.	Priory House School, Bridlington.
Black, J. H.	Wilson College, Cazenove Road, N.
[2]Bullock, R. C.	Private tuition.
[2]Burton, E.	Nelson College, Blackheath.
Byrne, H. K.	Claughton Coll. School, Birkenhead.
[2]Carpenter, H.	Yalding Grammar School.
[2]Carter, R. H.	Borden School, Sittingbourne.
Collett, F. W.	The Douglas School, Cheltenham.
[2]Cowley, H. E.	East Cliff School, Bournemouth.
Firth, H.	Harrogate College.
Hayward, E. C.	Theobald's Gram. S., Needham Mkt.
Hodge, J.	Poyntington School, Bournemouth.
Hume, M. L.	New College, Margate.
James, I. B. H.	Emanuel S., Wandsworth Common.
Kearton, A. S.	Battersea Grammar School, S.W.
King, A. C.	Rhodes House School, Manchester.
[2]Makin, A.	The College, Gildersome, Leeds.
[2]Martin, F. D.	Private tuition.
Middleton, A. J.	Claremont College, Blackpool.
Morris, T. J.	Oakes Institute, Walton, Liverpool.
Mountford, H. D. T.	Bourne College, Birmingham.
Nok Yoong	Private tuition.
Nops, N. W.	Clapham Collegiate School, S.W.
[2]Oomer, A. S.	Dane Hill School, Margate.
Park, G.	Devonport High School.
Pettit, W. J.	Ongar Grammar School.
Poppleton, R. R.	Wellington College, Salop.
[2]Reeve, A. H.	East Bridgford College, Notts.
Rose, E. P.	Emanuel S., Wandsworth Common.
Roth, S. E.	Kingston School, Yeovil.
Shattock, J. R.	Caversham House School, Reading.
Simper, E. C.	Barnstaple Grammar School.
Thompson, R. G.	Oxford House School, St. Albans.
[2]Varley, E. A.	Ealing Grammar School.
Woods, M. M.	Private tuition.
[2]Woolward, J. H.	North Grove School, Southsea.
Wright, G. E.	Theobald's Gram. S., Needham Mkt.
Adams, J. H.	Christ's College, Blackheath.
Aldridge, H. J.	Balham School, S.W.
[2]Badcock, W. P.	Surrey House School, Margate.
Barton, L. H.	Castle College, Guildford.
[2]Battersby, D.	Hindley Grammar School, Wigan.
Bond, W. C.	Edward VI. Middle S., Norwich.
Brooks, F. A.	Oakes Institute, Walton, Liverpool.
Brown, H.	Belmont Ho. S., Upper Tooting, S.W.
[2]Brown, R. B.	Newcastle Modern School.
Chandler, F. W.	Elmfield College, York.
Collins, J. O.	Willesden High School, N.W.
Dyer, F. W.	St. Augustine's College, Maidstone.
Eaglesfield, E. G.	Furness College, Morecambe.
Gloag, T. K.	Battersea Grammar School, S.W.
Haymes, R. E.	Bowood House School, Leamington.
Higginson, E. W.	Newquay Grammar S., Cornwall.
Hole, E. F.	Ascham College, Clacton-on-Sea.
Jarvis, A.	St. John's Royal Latin S., Buckinghm.
Lightfoot, E. A.	Grammar School, Streatham S.W.
Lloyd, E. N.	Middleton School, Bognor.
Old, W.	Devonport High School.
Payne, C. F.	Emanuel S., Wandsworth Common.
Pentony, R.	Maidenhead College.
Pigott, H. G.	Kendrick Boys' School, Reading.
Ritchie, F. W.	Acton Commercial School.
Price, G. E.	E. Devon Co. S., Sampford Peverell.
Roberts, F. B.	Poyntington School, Bournemouth.
[2]Robinson, S. W.	Private tuition.
Rowley, H. G.	Balham School, S. W.
Scholes, G.	Farnworth Grammar School, Lancs.
Snell, C. H.	The Grammar School, Towcester.
[2]Stebbing, F.	St. Paul's School, West Kensington.
Thompson, L. G.	Wesleyan Hr. Grade S., Colchester.
Thorns, F. E.	Edward VI. Middle School, Norwich.
[2]Webber, J.	Ellesmere College, Eastbourne.
Woodhouse, A. P.	Boys' High School, Shrewsbury.
[2]Worthy, G.	Grammar School, Rochdale.
Allen, W.	Barrowmount School, Folkestone.
Allt, R.	Battersea Grammar School, S.W.
[2]Andrews, S.	Brunswick House, Maidstone.
Aveling, H. G.	Christ's College, Blackheath.
Beaumont, C. L.	Grammar School, Clacton-on-Sea.
Bevitt, J. H.	Thorne Grammar School, Doncaster.
Bianchi, R. L. M.	Castle Hill School, Ealing.
Bretherton, A. S.	Christ's College, Blackheath.
Bryan, F.	Cambridge House School, Wigan.
Bryant, R. J.	All Saints' Choir School, Clifton.
Chapman, H.	Mary Street House School, Taunton.
Cooper, G.	People's College, Nottingham.
Coulson, T. A.	Scarborough Grammar School.
Creedy, C. D.	Herne Bay College.
[2]Crosthwaite, R.	Lancaster College, West Norwood.
Fox, C. E.	Thorne Grammar School, Doncaster.
Giles, J. L,	Fitzroy Collegiate School, W.C.
Gorton, H. C.	Furness College, Morecambe.
[2]Greenstreet, S. H.	Dane Hill School, Margate.
Gregson, J. A.	Christ's College, Blackheath.
Haines, S. G.	Winchester House, Redland, Bristol.
Halkon, J. W.	Thorne Grammar School, Doncaster.
[2]Harris, B.	Collegiate School, Kettering.
Headley, A. N.	The Woodroughs, Moseley, B'ham.
Hemingway, L.	All Saint's Choir School, Clifton.
Hubbard, M. C.	Clapham Collegiate School, S.W.
Jones, A. C. K.	Leek Grammar School.
[2]Jones, J. T.	Combe Lodge, Malvern.
Kent, R. M.	Marlborough Coll., Tue Brook, L'pool.
[2]King, R.	Emanuel S., Wandsworth Common.
[2]Labbett, F. J.	London Coll. Gram. S., Holloway Rd.
[2]Logan, L. H.	Kenilworth College.
Parsons, L.	Westfield House, Reading.
Proctor, J. W.	Commercial S., Downham Market.
Pughe, T. P.	Wellington College, Salop.
[2]Rice, A. D. S.	Lawn House S., Clapham Rd., S.W.
Rochford, F.	Holt House School, Cheshunt.
Sibbett, H. F.	St. John's Royal Latin S., Buckinghm.
Simpson, P.	Springfield College, Acton Hill.
Smith, W.	The Grammar School, Eccles.
Soddy, R.	Eastbourne Old School.
Spencer, R. K.	Stanley House, Morgate.
Strickland, W. E.	Ongar Grammar School.
Sunnuck, H. E.	Acton Commercial School.
Taylor, F. G.	Christ's College, Blackheath.
Thackray, S. H.	The College, Churwell, Leeds.
Warden, F.	Wesleyan Hr. Grade S., Colchester.
Watkins, A. G. A.	Belgrave House, Littlehampton.
Weaver, A. N.	St. George's College, Wimbledon.
Wetherill, E. H.	Monk Bridge School, York.
Williams, F. J.	The College, Weston-super-Mare.
Wilson, J. N. B.	Middleton School, Bognor.
[2]Wood, F. W.	Campbell House School, Bristol.
Woodcock, C. V.	Marlborough Coll., Tue Brook, L'pool.
Woodman, H.	Hr. Grade School, Merthyr Tydfil.
Ainsworth, W. P.	Wallingford Grammar School.
[2]Allan, W.	Nelson College, Blackheath.
Armstrong, A. J.	Harlesden College, N.W.
[2]Ballard, C. H.	Harlesden College, N.W.
Barber, E. H.	Stoke Newington Grammar School.
Blackburne, J. D. W.	Holmwood Ho., South Hill Pk., N.W.
Burton, A. D.	Springfield College, Acton Hill.
Campbell, A. S. C.	Redland Grove College, Bristol.
Chambers, G. C.	Redland Grove College, Bristol.
[2]Collinson, W. A.	The Grammar School, Eccles.
Colyer, H. C.	Northgate School, Winchester.
Davies, W. A	Gelligaer County School.
Emmett, F. G.	Gillingham Grammar School.
Fayerman, A. G. P.	Bowood House S., Leamington.
Furneaux, R. B.	Mount Radford School, Exeter.
Gishford, T. A.	Trowbridge High School.
Greenfield, T. B.	Argyll Ho. Nightingale Lane, S.W.
[2]Hall, L. C.	Apsley House School, Margate.
Hancock, G. D.	Grammar School, Belper.
Harrison, M.	Banham Grammar School, Attlebro'.
[1]Houstown, A. A.	Private tuition.
Knight, A. S.	Prætoria House School, Folkestone.
Leake, G. G.	Halstead Grammar School.
[2]Meldrum, A. V.	The College, Gildersome, Leeds.
Mitchell, A. J.	Holloway College, N.
[2]Morrison, E. J.	West Brighton High School.
Nash, R. H.	Emanuel S., Wandsworth Common.
Nunn, S. C. T.	St. Nicholas Comm. S., E. Dereham.
Petrides, C. B.	Alresford House, Margate.
Roberson, H. E.	Herne Bay College.
Robinson, R.	Commercial S., Clare St., Penzance.
Roose, W.	Grafton House School, Manchester.
Rothbarth, H. L.	Wykeham House S., W. Hampstead.
Russell, J. R.	The Grammar School, Eccles.
Scott, W.	Colebrook House School, Bognor.
Sheldon, P. H.	The Woodroughs, Moseley, B'ham.
Shere, A.	Dunn's Endowed School, Crediton.
Skinner, J. H.	Castle Hill School, Ealing.
Slocock, H. W.	Upton School, Slough.
Tompkinson, P.	Longton Endowed School, Staffs.
Tranter, R. H.	Highfield School, Chertsey, Surrey.
Tyler, F. W.	Emanuel S., Wandsworth Common.
Vine, T. E.	Mount Radford School, Exeter.
Watkinson, A.	Harrogate College.
Watts, T. N.	Loughton School, Essex.
Whitaker, C. F.	Harrogate College.
Wilson, A. S.	Balham School, S.W.
[2]Wordingham, W. E.	11 Mt. Pleasant Rd., Lewisham, S.E.
Yearsley, C. S.	Wilsford House School, Devizes.
Young, F.	Milton Abbas School, Blandford.
Badcock, R. J.	Mount Radford School, Exeter.
Barlow, C. H.	Farnworth Grammar School, Widnes.
[2]Bell, R. S.	Wirral College, Rock Ferry.
Booth, F.	Elmfield College, York.
Bright, V. C.	Wesleyan Hr. Grade S., Colchester.
Burgess, W. N.	The Modern School, Chichester.
Clare, C. G.	The Douglas School, Cheltenham.
Cole, B. D.	Guildhall Mid. S., Bury St. Edmunds.
Cross, A. J.	East Cornwall College, Liskeard.
Dunn, N. T.	Lucton School, Herefordshire.
Dutton, A. R.	New Brighton High School.
[2]Fillingham, E. B.	Harrogate College.
[2]Frame, F. F.	Trowbridge High School.
[2]Gale, A. G.	The Abbey School, Penzance.
Holmes, A. J.	High Park Hall College, Ryde, I.W.
Holmes, K.	Battersea Grammar School, S.W.
Hunt, R. C.	Trowbridge High School.
James, B.	Gelligaer County School.
Kimber, W. W.	Cliftonville College, Margate.
Kinnersley, C. J.	Winchester House, Redland, Bristol.
Kirkham, F.	High School for Boys, Bolton.
Loughlin, E.	Barton School, Wishech.
Longman, W. H.	Northgate School, Winchester.
Lowe, C. E. D.	Loughton School, Essex.
Massiah, C.	Winchester Ho., Redland, Bristol.
[2]Merrill, A.	Selhurst Pk. Coll., South Norwood.
[2]Miller, B. C.	St. Aubyn's, Woodford Green.
Miller, W.	Grammar School, Kirkby Lonsdale.
[2]Nickson, E. W.	Boys' High S. South Shore, Blackpool.
Procter, A.	Colne Road Middle Class S., Burnley.
Schurer, E.	Grammar School, Worthing.
Smiles, J. S.	Gravesend Modern School.
Stanley, H.	Lewisham House, Weston-s.-Mare.
Stephenson, W.	Archbishop Holgate's School, York.
Stevens, C. C. F.	Grammar School, Shoreham.
Tanner, H. N.	Ilfracombe Grammar School.
Taylor, W. L.	Grammar School, Streatham, S.W.
Timmins, P. H.	Apsley House School, Margate.
[2]Trewby, F. J.	Manor House, Clapham.
Vennard, W. T.	East Cornwall College, Liskeard.
[2]Webster, J. H.	The Crossley and Porter S., Halifax.
Whitehead, P. R.	East Hardwick School, Pontefract.
White, F. R. B.	Westfield House, Reading.
[2]Williams, J. A.	24 Chancery Lane, W.C.
Bacon, N.	Edward VI. Middle S., Norwich.
Ball, W. F.	Trowbridge High School.
Batten, R. E.	Upton School, Slough.
Braggins, J. J.	Banbury School, Oxon.
Cursons, F. J.	Polytechnic Intermediate S., W.
Davis, C. H.	Oakes Institute, Walton, Liverpool.
Deane, C. H.	Cliftonville College, Margate.
Dowding, C. E.	Borden School, Sittingbourne.
Fox, C. H.	Ilfracombe College.
Godwin, R. F.	Acton Commercial School.
Goldberger, C.	Belsize School, South Hampstead.
Haigh, J.	Harrogate College.
Harrison, C. G.	St. John's Roy. Latin S., Buckingham.
[2]Hughes, D.	St. Mary's Hall, Cardiff.
[2]Lakeman, W.	Uxbridge Preparatory School.
Lane, C. G. de L.	Stranraer School, Fareham.
Lennard, T. C.	Whitby Middle Class School.
Midgley, H.	Commercial S., Horsforth, Leeds.
Norman, H. C.	Beaumont House School, Jersey.
North, M. F.	Milton College, Ullesthorpe.
Pollard, W.	Harrow Lodge, Liverpool.
Price, H. J. D'A. G.	Bourne College, Birmingham.
[2]Robertson, T. F.	Wirral College, Rock Ferry.
Robertson, W. A.	Froebel House S., Stoke, Devenport.
[2]Stevenson, P.	Central Hill Coll., Upper Norwood.
Thorp, C. E.	Rose Hill School, Bowdon.
Titterton, A.	Leek Grammar School.
Tudor, F. F.	Bowood House School, Leamington.
Tyler, W. H.	Dr. Morgan's School, Bridgwater.
Watt, C. J.	Arlington Park College, Chiswick.
[2]West, S.	Gelligaer County School.
Arden, G. D.	Selhurst Park Coll., S. Norwood, S.E.
Blake, E.	Netherhampton House S., Salisbury.
Blumberg, M.	Southport Modern School.
[2]Booth, H.	The College, Gildersome, Leeds.
Bowditch, J. G.	Loughton School, Essex.
[2]Bulleid, F.	Grammar S., Camelford, Cornwall.
Butler, H. G.	Wilsford House School, Devizes.
Cook, J.	St. Loe's School, Amberley, Stroud.
[2]Cowan, A. J.	11 Mt. Pleasant Rd., Lewisham, S.E.
Curry, T. A.	Colebrook House School, Bognor.
Davis, C. G.	Tudor Hall, Hawkhurst.
Dinnis, G.	Kensey, Launceston.
Eatherley, C. G. P.	Emanuel S., Wandsworth Common.
Frith, R. G.	Halbrake S., Wandsworth Common.
Geare, L.	Belsize School, South Hampstead.
[2]Gorst, J. H.	Wirral College, Rock Ferry.
Hall, W.	Farnworth Grammar School, Lancs.
Henderson, W. E.	Private tuition.
Hudson, W. H.	Grammar School, South Shields
Huntriss, J.	Private tuition.
[2]Monks, H.	Private tuition.
Larkin, W. H.	Kendrick Boys' School, Reading.
Morris, F. S.	Oakes Institute, Walton, Liverpool.
Horusby, F. L.	The Grammar School, Towcester.
Hurrell, J.	Polytechnic Intermediate S., W.
Old, R.	Devonport High School.
Petty, F.	Ellesmere School, Harrogate.
Pierce, W. H.	Holyhead Grammar School.
[2]Raby, D.	Birkenhead Institute.
[2]Robinson, M. H.	St. Catherine's, Littlehampton.
Robson, W. N.	High School, Stockton-on-Tees.
Senior, W.	East Hardwick School, Pontefract.
Seymour, H. W.	Colebrooke House School, Bognor.
Shreeve, P. H.	Edward VI. Middle School, Norwich.
Stevens, C. A.	Kendrick Boys' School, Reading.
Tharle, W. D.	Manor House College, Hastings.
Tonkin, F.	Oakes Institute, Walton, Liverpool.
Webster, A. E.	Boys' Collegiate School, Aldershot.
Whinyates, T.	Churchfield House, Runcorn.
Whitehorn, S. A.	Newcastle Modern School.
Wood, C. H.	York Manor School, York.
[2]Wright, B. R. M. C.	New College, Margate.
Adams, H. C.	Collett House School, Bournemouth.
Barkley, J. E.	Clifton House, Scarborough.
Candy, R.	Grenville School, Queen Sq., W.C.
Clark, H. G.	Taunton House School, Brighton.
Clayton, H.	Bilton Grange School, Harrogate.
Crosoer, H. R. S.	New College, Margate.
Dunham, F. C.	Oxford House School, St. Albans.
Ellis, W. V.	Prætoria House School, Folkestone.
Evans, J. T.	Dunn's Endowed School, Crediton.
Fox, E. H. H.	Hythe School, Kent.
Farr, W.	Scarborough Grammar School.
Graves, J. C.	High School for Boys, Bolton.
Haughton, W. K.	High School for Boys, Bolton.
Holmes, A.	Oakes Institute, Walton, Liverpool.
Humphrys, H. E.	St. Catherine's Coll., Langland Bay.
Jones, W. J. T.	The Grammar School, Blackpool.

BOYS, THIRD CLASS—*Continued.*

Keir, J. L. Y.	Fairleigh School, Weston-s.-Mare.
King, J. S. R.	Cleveland House School, Salisbury.
Lambert, H. W.	Acton Commercial School.
Lewis, B. C.	St. Mary's Hall, Cardiff.
²Massey, A.	Halesowen Grammar School.
Major, P. C.	Battersea Grammar School, S.W.
²Mays, H.	Grammar School, Wortley, Leeds.
McTurk, R. W.	The High School, Brentwood.
²Mitchell, E. M.	St. Kenelm's Coll., Cowley, Oxford.
Molloy, R. L.	Grammar School, Shoreham.
Moorhouse, T.	Seven Thorns, Fairfield, Manchester.
Pasley, F. G. H.	St. Mary's Hall, Cardiff.
Patmore, F. C.	Wingfield House, Dover.
Phillips, W. H.	The Huish School, Taunton.
Pletts, C. M.	St. Kenelm'sCollege, Cowley, Oxford.
Pugh, A. J.	New Hall College, Sutton Coldfield.
²Pulsford, A.	Crouch End School, Hornsey.
Rawnsley, W. G.	Elmfield College, York.
Reid, H. J.	Balham School, S.W.
Riddle, E. V.	Bexley Heath College, Kent.
Rowell, R.	High School, Corbridge-on-Tyne.
Stone, A. H.	Emanuel S., Wandsworth Common.
Tilbrook, C. T.	Guildhall Mid.S., Bury St. Edmunds.
Whyte, D. S.	Westbourne Park College, W.
²Woutner, M. S.	St. Paul's School, West Kensington.
Agassiz, H. R. G.	Emanuel S., Wandsworth Common.
²Allan, F. G.	Park Hurst, Buxton.
Bailey, W.	Gosberton Hall, Spalding.
²Barbier, H. I.	St. James' Collegiate School, Jersey.
²Barton, G. T.	Private tuition.
Beachman, C. J.	Worcester Road School, Redditch.
Blomfield, A. E.	Catford Collegiate School, S.E.
²Bristow, A.	Ellesmere College, Eastbourne.
Brown, W. B.	Laugharne School, Southsea.
Burgess, N. A.	New College, Margate.
Bush, E. P. D.	Wilsford House School, Devizes.
Butcher, E. J.	Cavendish Grammar S., Suffolk.
Clayton, F. H.	Arlington Park College, Chiswick.
Corder, A. T.	Ascham College, Clacton-on-Sea.
Day, S. H.	Emanuel S., Wandsworth Common.
Ferneyhough, M.	Longton Endowed School, Staffs.
²Fletcher, F. J.	Emanuel S., Wandsworth Common.
Ford, E. J.	High School, Christchurch, Hants.
Forslind, N.	Bilton Grange School, Harrogate.
George, C. H.	Northgate School, Winchester.
Gibson, L.	Bourne College, Birmingham.
Ground, W.	Barton School, Wisbech.
Hepwell, S. J.	St. Kenelm'sCollege, Cowley, Oxford.
Huband, R. S.	Halstead Grammar School.
Hustler, C. C.	Emanuel S., Wandsworth Common.
Jackman, F. A.	Emanuel S., Wandsworth Common.
Lacey, S. C.	Grammar School, Worthing.
Lancaster, W.	Highfield School, Rock Ferry.
Lewin, C. H.	Abbey House School, Tewkesbury.
Luck, P.	Ellesmere College, Eastbourne.
Lewis, C. H.	Summerleaze Coll. S., East Harptree.
Neville, S. H.	Clapham Collegiate School, S.W.
²Nicol, H.	Private tuition.
Parrott, E. H.	Winchester House, Redland, Bristol.
Pawson, C. J.	Alresford House, Margate.
²Phillips, C. F.	Castle Hill School, Ealing.
²Roberts, G.	Emanuel S., Wandsworth Common.
Ruddock, G. E.	Monk Bridge School, York.
²Seal, E. G.	Lonsbury Coll., Up. Clapton, N.E.
Snell, J. S.	Buckland House School, Axminster.
²Swinden, E. A.	Priory House School, Bridlington.
Vardon, H. B.	Grove House S., St. Helier's, Jersey.
Warr, C. W. A.	New College, Margate.
Watson, A. W.	Stoke Newington Grammar School.
Wilding, T. H.	The Grammar School, Blackpool.
²Williams, W. R.	15 Promenade, Swansea.
Wort, A. W. E.	Wimbledon Collegiate School, S.W.
Alliugham, J.	St. John's Roy. Latin S., Buckingham
²Bond, C. H. C.	Manor House, Clapham.
Chaplin, A. G.	Tudor Hall, Hawkhurst.
Dadswell, E.	Brunswick House, Maidstone.
Dyke, H. G.	Apsley House School, Margate.
Furmston, E. B.	Grammar School, Kirkby Lonsdale.
²Gabbett, E. P.	Halbrake S., Wandsworth Common.
²Graham, J. F.	Stanley House, Margate.
Green, E. W.	Gilliugham Grammar School.
Griffin, J. E.	Devonport High School.
²Gunn, B. M.	Kensington Park College, W.
Hailes, A. B.	Balham School, S.W.
Halley, L. J.	Ascham College, Clacton-on-Sea.
²Hamond, A. D.	Hadley House S., Littlehampton.
Harrison, E. S.	Middleton School, Bognor.
²Hemings, R. H. W.	South Norwood Collegiate S., S.E.
Illidge, E. J.	St. John's College, Southend.
Jarvis, J. C.	Emanuel S., Wandsworth Common.
Jones, E. J.	Gelligaer County School.
²Kirkman-Skerry, G. R.	27 Chancery Lane, W.C.
Le Brun, J. R.	St. James's Collegiate S., Jersey.
Lindley, S. O. F.	Rhodes House School, Manchester.
Manning, J. E.	Tottenham College, N.
Mason, W. G.	Salvandy Terrace School, Jersey.
²Mennell, L. W.	The College, Gildersome, Leeds.
Mercer, A. A.	Borden School, Sittingbourne.
Needham, G.	Bickerton House School, Birkdale.
Pearson, S. W.	Wilson College, Cazenove Road, N.
Philips, A.	Devonport High School.
Rawsthorne, F. G.	Rhodes House School, Manchester.
Riddelsdell, T. E.	Herne Bay College.
Roe, E.	Dr. Morgan's School, Bridgwater.
Scarles, W. B. A.	St. Augustine's College, Maidstone.
Sutcliffe, W. N.	Elmfield College, York.
Sutton, W. E.	Holt House School, Cheshunt.
Thompson, J. A.	Huntingdon House S., Teddington.
Tonge, S. C.	Selhurst Park Coll., S. Norwood, S.E.
Upson, A. S.	Pierremont College, Broadstairs.
Watson, C.	East Hardwick School, Pontefract.
²West, G.	Middleton College, New Brighton.
Whitehouse, J.	Bourne College, Birmingham.
Wilkinson, H. C.	Sydenham House, Leamington.
Wyatt, W. A.	Wesleyan Hr. Grade S., Colchester.

THIRD CLASS.—3RD DIVISION.

Aitchison, J. C.	Harrogate College.
Baldwin, J. H.	Prætoria House School, Folkestone.
Barnett, A. C.	Castle Hill School, Ealing.
Barrett, A. E.	East Anglian S., Bury St. Edmunds.
Cabot, A. D,	Salvandy Terrace School, Jersey.
Causer, H. W.	Private tuition.
Chalmers, F. D.	The Huish School, Taunton.
Cole, F. H.	Wimbledon Collegiate School, S.W.
Danger, R.	Claughton Coll. S., Birkenhead.
Dickinson, L. T.	Fairleigh School, Weston-s.-Mare.
Eliott, S. L.	Sidcot School, Winscombe, Somerset.
²Fairley, W.	Ashley House School, Worksop.
Finer, H. J.	Ascham College, Clacton-on-Sea.
²Fish, F. H.	Archbishop Holgate's School York.
Gauntlett, E. G.	Hurst Lodge School, East Putney.
George, P. T.	Grammar School, East Finchley.
²Gibson, L. S.	Lousbury Coll., Upper Clapton, N.E.
Gowing, A.	Paragon House School, Norwich.
Harding, P. J. W.	Emanuel S., Wandsworth Common.
²Harker, J. J.	Lawn House S., Clapham Rd., S.W.
Harris, H. R.	Devonport High School.
²Harrisson, G. H.	Wirral College, Rock Ferry.
Hart, A. H.	Clyde House, Hereford.
Hatch, H. C.	Private tuition.
Harwood, A. J.	21 Palatine Square, Burnley.
Hill, R.	Leek Grammar School.
Hodges, G. F.	Richmond Hill School, S.W.
Hunter, J. H.	Sandyford Acad., Newcastle-on-T.
Hyslop, W.	Harlesden College, N.W.
Ibbotson, H.	Ashley House School, Worksop.
Jackson, W. E.	East Cornwall College, Liskeard.
Jones, W. H.	St. Martin's Gram. S., Scarborough.
²Lambert, R. H.	Selhurst Park Coll., S. Norwood, S.E.
Lister, S. O.	Private tuition.
Methven, C.	Woolston College, Southampton.
Nicolle, R. N.	Grove House S., St. Helier's, Jersey.
Northcott, E.	Commercial S., Clare St., Penzance.
Raine, W. J.	Gravesend Modern School.
Rimmer, E. J.	Bickerton House School, Birkdale.
Salter, L. E.	Manor House College, Hastings.
²Samson, R. D.	Emanuel S., Wandsworth Common.
Samways, E. R.	Gillingham Grammar School.
Seaman, W. C.	Springfield College, Acton Hill.
Smith, C. A.	Grammar School, Leek.
Spencer, W. S. C.	Ellesmere School, Harrogate.
²Such, A. A. H.	Emanuel S., Wandsworth Common.
Taylor, F.	Park Hurst, Buxton.
²Thomas, R.	Middleton College, New Brighton.
²Toomey, H. S.	North London Collegiate S., N.W.
Vallance, B. J.	Commercial School, Downham Mkt.
²Verger, E. A.	Castle College, Guildford.
Warner, H.	The Grammar School, Eccles.
²Whatley, A. C.	10 Worcester Terrace, Clifton.
Wootton, A.	Walsall Commercial College.
Adams, E.	Swindon High School.
Annakin, R. W.	Elmfield College, York.
Archer, J.	Victoria College, Congleton.
Aylen, A. G.	Laugharne School, Southsea.
Barker, W.	Ilkley College, Ilkley, Yorks.
Beverley, B. F.	Fairleigh School, Weston-s.-Mare.
Billing, A. W. S.	West Brighton High School.
²Brown, S. M.	New College, Margate.
²Buss, P. J.	Borden School, Sittingbourne.
²Chapman, W.	Yalding Grammar School.
Davy, A. S.	Edward VI. Middle School, Norwich.
Edwards, J.	Gelligaer County School.
²Greenslade, O. A.	10 Worcester Terrace, Clifton.
²Hope, P. C.	Banham Grammar Sch., Attleboro.
Jones, C. B.	Gelligaer County School.
²Kempson, F. R.	Rother House School, Lewisham, S.E.
Lane, S. G.	Christ's College, Blackheath.
Mallingly, B.	Private tuition.
²Marett, E.	St. James' Collegiate School, Jersey.
Meynet, L.	St. John'sRoy. Latin S., Buckingham.
Millington, R. P.	Wellingtou College, Salop.
²Morley, G. E.	Balham School, S.W.
Oram, S. J.	Devonport High School.
²Ratcliff, J. W.	Castle Hill School, Ealing.
Richardson, F. M.	Claughton Coll. School, Birkenhead.
Richens, C. F.	Wellington House, Broadstairs.
Rosenbaum, J.	Tottenham College, N.
Rowe, T. C.	Commercial S., Clare St., Penzance.
Rowley, R. L.	Emanuel S., Wandsworth Common.
Salisbury, J. A.	New Brighton High School.
Sharp, G. F.	Stoke Newington Grammar School.
Shepherd, A. C.	Emanuel S., Wandsworth Common.
²Smyth, F. W.	10 Anerley Road, Crystal Palace, S.E.
Stace, P. W.	Barton School, Wisbech.
Stocker, E.	Towcester School.
Tansley, A. I.	Grammar School, Shoreham.
Thomson, J. R.	Emanuel S., Wandsworth Common.
Walker, W. R.	Grove House School, Highgate.
Watson, W. P.	Ongar Grammar School.
Wenham, F. C.	Upton School, Slough.
Wilder, H. H.	Wallingford Grammar School.
Wiseman, P.	Emanuel S., Wandsworth Common.
²Woodhams, J. B.	Belgrave House, Littlehampton.
Atkinson, H. H.	Middleton School, Bognor.
Bigg, J. F.	Towcester School.
Birks, H.	Osborne House S., West Hartlepool.
Bown, L.	Bilton Grange School, Harrogate.
Cockburn, C. W. F.	Grove House School, Highgate.
²Constantine, J. W.	Pannal Ash College, Harrogate.
Couldrey, W. A.	Swindon High School.
Davis, M. J.	Eaton House School, Hull.
Dunn, H.	Belsize School, South Hampstead.
Fenwick, R. B.	Rugby House School, Brighton.
Genese, A. L.	Polytechnic Intermediate School, W.
Gibson, E. D.	Wellington College, Salop.
Gishford, W. S.	Trowbridge High School.
Grecnall, F.	Holt House School, Cheshunt.
Hellyar, T. L.	Cheveley Hall, Plymouth.
²Hennell, S. T.	Halbrake S., Wandsworth Common.
Hill, C. S.	Barrowmount School, Folkestone.
²Holloway, S. J.	Manor House, Clapham.
Kerr, R. C.	Stanley House, Margate.
Leeman, T.	Grammar School, Kirkby Lonsdale.
Marshall, G.	Boys' High S., South Shore, Blackpool
²Mather, C. H.	Rhodes House School, Manchester.
Mills, H. H.	West Brighton High School.
Ovenden, H. W.	St. Leonards Collegiate School.
Parker, D. J.	Clyde House, Hereford.
²Patten, F. H.	London Coll. Gram. S., Holloway Rd.
Phillipps, E. J.	Midhurst Grammar School.
Pont, E. S.	Winchester House, Redland, Bristol.
Price, J. H.	Churchfield House, Runcorn.
Ransom, E. W.	Caversham House School, Reading.
Ratcliffe, T.	Betton House, Shrewsbury.
Rodber, M. V. H.	Kingston School, Yeovil.
Shead, G. C.	Holt House School, Cheshunt.
Sheldon, W. R.	Manor House College, Hastings.
Smith, P. H.	Stoke Newington Grammar School.
Stephenson, F. H.	Wellington College, Salop.
Sugars, H.	Scarborough Grammar School.
Tewsley, G. McL.	Caversham House School, Reading.
Upsdale, R. D.	Wilson College, Cazenove Road, N.
Utting, G. W.	Edward VI. Middle School, Norwich.
²Veitch, J. N.	Prince's Road High S., Liverpool.
Williams, T. C.	Gelligaer County School.
Williamson, D.	Bilton Grange School, Harrogate.
Betbeder, J. F.	Selhurst Pk. Coll., S. Norwood, S.E
Boss, S.	Fitzroy Collegiate School, W.C.
Carter, F. R.	Boys' Collegiate School, Aldershot.
Crisp, E. H.	Halstead Grammar School.
Dallow, H. C.	Clyde House, Hereford.
Dart, G. J.	Oxenford House School, Jersey.
²Gilkes, J. H.	British School, Stony Stratford.
Greenstreet, G. S.	Dane Hill School, Margate.
Haslam, P. J.	Midhurst Grammar School.
Hicks, S. V.	Reading Collegiate School.
Hutchinson, S.	The College, Gildersome, Leeds.
Jenkins, G. D.	Linden Ho. School, St. John's, S.E.
Jones, W. P.	Gelligaer County School.
Knight, R. E.	Wimbledon Collegiate School, S.W.
Lakeman, A. S.	Trowbridge High School.
Lefeaux, E.	Lancaster College, West Norwood.
Lepine, C. A.	Cliftonville College, Margate.
Letherby, H.	Polytechnic Intermediate S., W.
²Littleton, W. H.	Selhurst Pk. Coll., S. Norwood, S.E.
Mitchell, J.	Edward VI. Middle School, Norwich.
Postle, L. A.	Banham Grammar Sch., Attleboro'.
Robinson, R.	Sandyford Acad., Newcastle-on-Tyne
Rust, A. D.	Croad's School, King's Lynn.
Spencer, C. E. G.	Rusholme High School, Manchester.
Storey, H.	Oakes Institute, Walton, Liverpool.
Sykes, W.	Read's School, Drax, Selby.
Young, A.	New Brighton High School.
Barber, H. H.	Emanuel S., Wandsworth Common.
Briggs, H.	Leeds Church Middle Class School.
Bonhote, T. E.	Castle Hill School, Ealing.
Brunyard, J.	Ousegate School, Selby.
Brown, W.	Lewisham House, Weston-s.-Mare.
Cautlay, L.	St. John'sRoy. Latin S., Buckingham
²Charlesworth, E. V.	London Coll. Gram. S., Holloway Rd.
Chubb, J. F.	St. John's Choir S., Up. St. Leonards.
Churton, W.	West Brighton High School.
Corbin, W. H.	Manor House, Havant.
¹Craven, E.	Rhodes House School, Manchester.
Cullen, A. G.	Boys' Collegiate School, Aldershot.
Dodwell, R.	Highfield, Wandsworth Common.
Eyles, A. G.	Trowbridge High School.
²Farrar, W. R.	Fairhaven High S., St. Anne's-on-Sea.
Harris, W.	Thornton House School, Redruth.
²Hartley, D. H. J.	Private tuition.
Howard, C. F.	West Cliff School, Ramsgate.
Hunt, A. S.	Guildhall Mid. S., Bury St. Edmunds.
²Jones, A.	Whitchurch Grammar School.
Kelly, T. F.	Private tuition.
Long, J. W.	Elmfield College, York.
Parrott, B.	Banbury School, Oxon.
²Parry, D. M.	Gelligaer County School.
Pickard, J. A.	Furness College, Morecambe.
Raywood, R. D.	Betton House, Shrewsbury.
Raywood, V. C.	Betton House, Shrewsbury.
Robson, W.	Tynemouth School.
Sands, W. A.	Leeds Church Middle Class School.
²Shipley, C.	Private tuition.
²Shurmur, W. G.	Surrey House School, Margate.
Skinner, T. C.	Castle Hill School, Ealing.
Smallridge, W.	Barnstaple Grammar School.
Smith, H. W.	Holmwood Ho., South Hill Pk., N.W
Steff, W.	Collegiate School, Kettering.
Stirrup, R.	Holyhead Grammar School, S W.
Wells, S. L.	Balham School, S.W.
White, E. C.	Battersea Grammar School, S.W.
White, E. E.	Trowbridge High School.
Wilkinson, F. W.	St. Loe's School, Amberley, Stroud.
Williams, A. C.	Deytheur Grammar S., Oswestry.
Bardwell, W.	Cavendish Grammar S., Suffolk.
Bland, P.	Boys' High S., South Shore, Blackpool
Borrow, G. N.	Arlington Park College, Chiswick.
Brown, A. W.	Farnworth Grammar S., Widnes.
Buswell, C. J.	Wallingford Grammar School.
Clement, E. G.	Finchley High School, N.
Clough, T.	Furness College, Morecambe.
Creedy, E. G.	Herne Bay College.
Curtis, C. H.	Elm Bank School, Nottingham.
David, W. G.	Gelligaer County School.
Davies, W. M.	Gelligaer County School.
Darker, S.	New Hall College, Sutton Coldfield.
Ehrensperger, H. R.	Boys' Collegiate School, Aldershot.

BOYS, THIRD CLASS—*Continued.*

Foster, F.	Collegiate School, Kettering.
Garbett, L.	Wellington College, Salop.
[2]Goulding, F.	Emanuel S., Wandsworth Common.
Henderson, W. D.	Holt House School, Cheshunt.
Higgs, N. F.	Christ's College, Blackheath.
Hoe, Nai	Heathmere, Haywards Heath.
Jenkin, J.	Hart House S., Burnham, Somerset.
Marks, F.	Castle Hill School, Ealing.
Martyn, J. N. G.	Ivel Bury School, Biggleswade.
[2]May, C.	Castle College, Guildford.
Morris, P. H.	Wesleyan Higher Grade S., Colchester
Pethybridge, H.	Ongar Grammar School.
Pond, L. W.	Guildhall Mid. S., Bury St. Edmunds.
Riddle, F.	Broomwood, Clapham Common, S.W.
Stott, A.	Thirsk High School.
Thornley, A. L.	High School for Boys, Bolton.
Veale, S. K.	Plympton Grammar School, Devon.
Warren, A. E.	New College, Margate.
Webb, R. H.	Bourne College, Birmingham.
Andrew, P. R.	The Grammar School, Towcester.
[2]Andrews, A. A.	New College, Margate.
[2]Blow, A. G.	Cowes Grammar School.
Charnock, J.	Oakes Institute, Walton, Liverpool.
Collins, A. G. W.	Reading Collegiate School.
Cousin, E. E.	Apsley House School, Margate.
Ferguson, L.	Upton School, Slough.
Gabb, F.	Ellesmere College, Eastbourne.
[2]Harding, H. R.	Manor House, Clapham.
[2]Harrison, A. P.	Emanuel S., Wandsworth Common.
Hawkins, A. S.	Prætoria House School, Folkestone.
Hodgkinson, F.	Farnworth Grammar S., Widnes.
Hollick, J. W.	Kenilworth College.
Hudson, A.	Springfield Mount School, Leeds.
Joslin, C. D.	Bexley Heath College, Kent.
Kettlewell, C. R.	Esplanade House School, Southsea.
Lehrs, G. E.	Emanuel S., Wandsworth Common.
Lowther, L.L.St.G.	Prætoria House School, Folkestone.
Martyn, T.	Harleigh House School, Bodmin.
McBean, K. C.	Grammar School, Streatham, S.W.
Middleton, E. R.	Grammar School, Leek.
Molloy, J. B.	Grammar School, Shoreham.
Owen, R. D.	Etonhuust, Weston-super-Mare.
Newcombe, A.	Devonport High School.
Nixon, A. C.	Apsley House School, Margate.
[2]Norton, E. H.	Stanley House, Margate.
Parkes, W. J.	Halesowen Grammar School.
Parry, B. G.	Knowle Higher Grade S., Bristol.
Payne, D. S.	Grenville School, Queen Square, W.C.
[2]Porteus, G. O. P.	Archbishop Holgate's School, York.
Pyle, O. E.	Grammar School, Shoreham.
Richards, H. P.	Weston School, Bath.
[2]Sargent, V. F. G.	83 Montpellier Road, Brighton.
Talbot, B. G.	Thorne Grammar S., Doncaster.
[2]Thomas, A. W.	Devonport High School.
Webb, H.	Deytheur Grammar School, Oswestry.
Wright, A. T.	Stoke Newington Grammar School.
Atkinson, A.	Boys' High S., South Shore, Blackpool
Barker, J. E.	Bourne College, Birmingham.
Baxter, H. G.	Emanuel S., Wandsworth Common.
Berrie, V. L.	Grammar School, Streatham, S.W.
Brindle, A.	High School for Boys, Bolton.
Cashmore, H. T.	Kenilworth College.
Cox, H. V.	Upton School, Slough.
Crone, J. S.	Harlesden College, N.W.
Davies, C.	Modern School, South Shields.
Henderson, J. D.	Holt House School, Cheshunt.
Hoghton, W.	Furness College, Morecambe.
Hopwood, F.	Oakes Institute, Walton, Liverpool.
Iggulden, H.	Ongar Grammar School.
[2]Lacey, S. W.	Emanuel S., Wandsworth Common.
[2]Lascelles. J. E.	Wyllies, Cuckfield.
Lascelles, P. L.	Wyllies, Cuckfield.
Micklethwaite, B.C.	Leeds Church Middle Class School.
[2]Mollet, A. P.	Charing Cross S., St. Helier's, Jersey.
Molynenx, A. E.	Oakes Institute, Walton, Liverpool.
Mundell, B. O.	Brunswick House, Maidstone.
Nash, G. L.	Private tuition.
Newson, J.	Banham Grammar School, Attleboro.
Page, H.	St. Kenelm's College, Cowley, Oxford.
Roberts, J. A. H.	The Grammar School, Eccles.
Trestain, A.	The High S., Weston-super-Mare.
Trevethick, E. G.	Bourne College, Birmingham.
[2]Thom, C. M.	Henley House, Mortimer Rd., N.W.
Tomkins, F. E.	Brunswick House School, Windsor.
Walker, W. S.	Grammar School, Kirkby Lonsdale.
Webb, B. H.	Deytheur Grammar S., Oswestry.
Wickes, R.	Collegiate School, Kettering.
Widgery, F. J.	Lewisham House, Weston-s.-Mare.
Willis, R.	Osborne House S., West Hartlepool.
Wilson, J. W.	Private tuition.
Allchin, A. C.	Westfield House, Reading.
Bedale, F. S.	The Grammar School, Eccles.
Boddy, J. A. A.	Rhodes House School, Manchester.
Britton, E.	Balham School, S.W.
Brown, P. C.	New Brighton High School.
Cundall, R. W.	Wharfedale College, Boston Spa.
Dickinson, W.J.W.	Fairleigh School, Weston-s.-Mare.
Edwards, H. G.	High School, Corbridge-on-Tyne.
Ford, C. W.	Westfield House, Reading.
Halliday, W.	Wharfedale College, Boston Spa.
[2]Hazell, R.	London Coll. Gram. S. Holloway Rd.
Hepburn, A. W.	Tynemouth School.
Jones, E. L.	Dr. Morgan's School, Bridgwater.
Kidner, H. G.	Redland Grove College, Bristol.
Knight, A.	Springfield College, Acton Hill
Knight, H. S.	East Cliff School, Bournemouth.
Lyne, W. F.	Grammar School, Newton Abbot.
Marsh, E. H.	Brunswick House, Maidstone.
Mason, W.C.	Emanuel S., Wandsworth Common.
Newman, A.	Collegiate School, Kettering.
Pearson, F. W.	Tudor Hall, Hawkhurst.
[2]Perrin, R. P.	Hill Rise House S., Richmond, S.W.
Persse, T. B.	Handel College, Southampton.
[2]Phillips, P.	Belsize School, South Hampstead.
Reynolds, P. G.	Tynemouth School.
Richardson, A.	Trowbridge High School.
Roberts, S.	The Grammar School, Eccles.
Rose, C. H.	Wimbledon Collegiate School, S.W.
Smith, A.	Read's School, Drax, Selby.
Smith, G. S.	Apsley House School, Margate.
Stopher, E. T.	Northgate School, Winchester.
Tresider, P. J.	St. Mary's Hall, Cardiff.
[2]Viall, L. H.	Tynemouth School.
Voce, C. H.	Dudley Collegiate School, Dudley.
Wood, W. A.	Cliftonville College, Margate.
Bishop, C. F.	Emanuel S., Wandsworth Common.
[2]Buist, H. H. S.	4 Finsbury Square, E.C.
[2]Cass, F.	The Mount Academy, Malton.
Forster, J.	Woodford Grammar School.
Gair, C. J. D.	Elmfield College, York.
[2]Hagger, F.	Crouch End School, Hornsey.
Hall, P.	Emwell House School, Warminster.
[2]Heath, A. W.	Private tuition.
Higgins, H. M.	Spencer College, Wimbledon.
Howard, C. S.	Kurnella, Bournemouth.
[2]Hunt, J. O.	Highfield S., Chertsey, Surrey.
Keene, G.	Stoke Newington Grammar School.
Maass, O. J.	Tynemouth School.
Moffat, P. W.	Hart House S., Burnham, Somerset.
Morphett, W. H.	West Brighton High School.
Moles, R. T.	Upton School, Slough.
Pimm, A. G.	Halbrake S., Wandsworth Common.
[2]Poingdestre, C. E.	Charing Cross S., St. Helier's, Jersey.
Rhodes, J. E.	Bilton Grange School, Harrogate.
Richards, C. A.	The Huish School, Taunton.
Rochefort, G. C. E.	St. John's College, Margate.
Scarratt, R.	Leek Grammar School.
Scully, M.	Kensey, Launceston.
Smyth, F.	Barnstaple Grammar School.
[2]Sugden, E. S.	Private tuition.
Turner, W.	Lewisham House, Weston-s.-Marc.
Umnuey, Khoon	Loughton School, Essex.
Vincent, E. S.	Bolingbroke Grove S., Wandsworth.
Wakem, V.	Oakes Institute, Walton, Liverpool.
Warren, T. H.	Wilton Grove School, Taunton.
Westwell, W.	The Grammar School, Blackpool.
Wing, R. A.	Eaton House School, Hull.
Woodley, E.	Thorne Grammar School, Doncaster.
Wyatt, E. G. W.	Weston School, Bath.
Bailey, C. F.	Bourne College, Birmingham.
Bell, A. L.	High School, Camborne.
Carter, S.	St. Aubyn's, Woodford Green.
[2]Dickins, E. A.	Claughton Coll. S., Birkenhead.
Emblin, A.	Ashley House School, Worksop.
Felton, D.	Woodford Grammar School.
Gooding, T. O.	Woolston College, Southampton.
Hankin, A.	Gosberton Hall, Spalding.
Hayton, G. S.	Old Elvet School, Durham.
Heppell, W. B.	Wingfield House, Dover.
Hill, Robert.	Leek Grammar School.
Hopegood, A. V.	Thorne Hill S., Kidbrook, Blackheath
Kitchener, W.	St. John's Roy. Latin S., Buckingham
Lake, F. W.	Oakes Institute, Walton, Liverpool.
Mallett, E. A.	Tynemouth School.
Martin, G. W.	West Cliff School, Ramsgate.
Middlehurst, H.	Ilkley College, Ilkley, Yorks.
Morley, E. H.	Upton School, Slough.
Mobbs, C. S.	Collegiate School, Kettering.
North, F.	Kendrick Boys' School, Reading.
Owen, P. C.	Rhodes House School, Manchester.
Parker, H. D.	Furness College, Morecambe.
Pearce, H. G.	Barnstaple Grammar School.
Pellow, F. G.	Ilfracombe Grammar School.
Pike, J. W.	Banham Grammar S., Attleboro.
Robinson, R. E.	Arlington Park College, Chiswick.
Rowe, B. T. W.	Grammar School, Penzance.
Rus'on, S. M.	New College, Margate.
Simpson, P. H.	Grove House S., St. Helier's, Jersey.
Turner, J. H.	Oakes Institute, Walton, Liverpool.
Walton, H.	Furness College, Morecambe.
Wilton, D.	Seymour House, Saltash, Cornwall.
Yonge, C. E.	Handel College, Southampton.
Ambrose, R.	Cavendish Grammar School, Suffolk.
Amos, J. B.	Thirsk High School.
[2]Beaumont, A. W.	Emanuel S., Wandsworth Common.
Chadwick, R. F. L.	Furness College. Morecambe.
Churchill, J. P.	St. Mary's Hall, Cardiff.
Crook, E. R.	Tudor Hall, Hawkhurst.
Deeks, P. J.	Eastbourne Old School.
Dickinson, H. S.	The College, Cleveden.
Dyson, J. R.	Victoria S., Jesmond, Newcastle-on-T
Elliott, C. J.	Highfield School, Chertsey, Surrey.
Fenton, A. G.	Maidenhead College.
Fielding, F. C.	St. Mary's Hall, Cardiff.
Forrest, H. M.	Private tuition.
Havers, H. C.	Edward VI. Middle School, Norwich.
Holmes, H.	Westfield House, Reading.
[2]Jewers, H. F.	Ealing Dean College.
Lawson, H. M.	Christ's College, Blackheath.
Martin, F.	Borden School, Sittingbourne.
Neresheimer, A.	Belsize School, South Hampstead.
Pyke, C.	Dunn's Endowed School, Crediton.
[2]Radeglia, R. C. V.	Surrey House School, Margate.
Robins, T. H.	Emanuel S., Wandsworth Common.
Samuel, H. T. A.	Oakes Institute, Walton, Liverpool.
Scase, V. G.	Clifford School, Beckington, Bath.
[2]Skinner, W. B.	Selhurst Park Coll., S. Norwood, S.E.
Way, H. A.	Ebor School, Bexhill.
Webster, W.	Higher Grade School, Selby.
[2]Wedgé, B. C. G.	Emanuel S., Wandsworth Common.
Wells, R.	Banham Grammar S., Attleboro.
West, R.	Christ's College, Blackheath.
White, P. H.	Hurst Lodge School, East Putney.
Ajitsinghji, K. S.	Private tuition.
Bailey, A. C.	Redland Grove College, Bristol.
[2]Chichester, D. G.	Boys' Coll. and High S., Southampton.
Cutmore, J. J.	The High School, Romford.
Dillon, T. F.	The High School, Brentwood.
Dixon, K. L.	Banham Grammar S., Attleboro.
Draper, B. E.	Kingston School, Yeovil.
Foster, B.	Barton School, Wisbech.
Gardener, G. E	St. Loe's School, Amberley, Stroud.
Gibbs, A. G.	Edward VI. Middle School, Norwich.
Goodchild, A.	Banham Grammar S., Attleboro.
[2]Greenhalgh, J. T.	The College, Gildersome, Leeds.
Loads, H. R.	Edward VI. Middle School, Norwich.
Mann, C. E.	Edward VI. Middle School, Norwich.
Moldon, G.	Northgate School, Winchester.
Marsh, E.	Herne Bay College.
Moses, L.	Fitzroy Collegiate School, W.C.
[2]Puzey, W.	Crouch End School, Hornsey.
Randall, R. T.	Burgess Hill High School, Sussex.
Redfern, E. W.	Grammar School, Leek.
Selleck, C.	Plympton Grammar School, Devon.
Turnell, G. J.	Barton School, Wisbech.
West, J. H.	Brunswick House School, Windsor.
Wightman, H. C.	New Brighton High School.
Wilson, A.	Loughton School, Essex.
Appleby, W. H.	Weyleyan Higher Grade S., Colchester
Betts, S. E.	Willesden High School, N.W.
Bird, J.	Collegiate School, Kettering.
Brown, J.	Ousegate School, Selby.
Byrne, M.	St. John's Roy. Latin S., Buckingham.
Cook, W. S.	The College S., Huyton, Liverpool.
Foster, G. F. J.	Cliftonville College, Margate.
Fuller, N. H. T.	The Huish School, Taunton.
Gaite, G.	Exmouth College.
[2]Harpole, H. E.	Ashford Grammar School, Kent.
Hart, G. D.	Oxford House S., Sutherland Av., W.
Hemming, G. F.	Highfield, Wandsworth Common.
Hinton, E. H.	St. Augustine's College, Maidstone.
Holmes, L. G.	Boscombe High S., Bournemouth.
[2]Howie, P. G.	Kilgrimol School, St. Anne's-on-Sea.
Jenkins, H.	Linden House School, St. John's, S.E.
Lanyon, C.	Sycamore Hall, Goldsithney.
Laurent, H. F.	Upland College, Stoke Newington.
Lawton, W. B.	The College, Gildersome, Leeds.
Lynas, D.	Thorne Grammar School, Doncaster.
McClelland, W. Mc.K.	Oakes Institute, Walton, Liverpool
Mears, F. H.	Grammar School, Clacton-on-Sea.
Middleton, R. P.	Edgbaston Academy, Birmingham.
Piggott, P. E.	Borden School, Sittingbourne.
Pinch, J. N. S.	Harleigh House School, Bodmin.
Read, W. W.	The College, Huyton, Liverpool.
Redford, A. S.	Northgate School, Winchester.
Runnalls, H. B.	Harleigh House School, Bodmin.
Slaney, E. C.	Grammar School, Leek.
Stobbs, J. L.	St. Leonards Collegiate School.
Tate, J.	Ousegate School, Selby.
Temby, W.	Trevu Academy, Camborne.
Walden, P. S.	Arlington Park College, Chiswick.
Ward, V.	The Grammar School, Blackpool.
Winterton, W. T.	Weston School, Bath.
Withers, W. W.	Emanuel S., Wandsworth Common.
Wolseley, P. S.	Grammar School, Shoreham.
Worsley, T.	Claremont College, Blackpool.
Choules, R. W. B.	Swindon High School.
Cooper, B.	Collegiate School, Kettering.
Edgerley, C. S.	Fortescue College, Radstock, Bath.
Evans, H. J.	Grammar School, Kirkby Lonsdale.
Gordon, E.	Grafton House School, Manchester.
Green, F.	Woodford Grammar School.
Hill, S.	Emanuel S., Wandsworth Common.
Hoylund, C.	Ashley House School, Worksop.
Jordan, W. J.	Egerton Park College, Bexhill.
Kewley, G.	Oakes Institute, Walton, Liverpool.
Loe, E. E.	High Park Hall College, Ryde, I.W.
[2]McCormick, S. H.	Private tuition.
Oxley, G. E.	Bexley Heath College, Kent.
Strutt, A. U.	Christ's College, Blackheath.
Sutton, E. A. F.	Leylands School, Hornsea.
Thomas, M.	Bexley Heath College, Kent.
Topham, O. P.	Barton School, Wisbech.
Von der Heyde, J.	Lancaster College, West Norwood.
Warren, R.	Barton School, Wisbech.
Warren, W. A.	Wilton Grove School, Taunton.
Wheeler, J. E.	Maidenhead College.
Wilton, W. S. F.	Burgess Hill High School, Sussex.
Anderson, W. W.	Leeds Church Middle Class School.
Barker, C. C.	Bickerton House School, Birkdale.
Brown, G. P.	54 Sutherland Avenue, W.
Date, M.	Trowbridge High School.
Fox, C. J.	Harrogate College.
Holmes, E. J.	Westfield House, Reading.
Hughes, J. A.	Colebrook House School, Bognor.
[2]Lee, A. D.	Borden School, Sittingbourne.
Matthews, R. C.	Kenilworth College.
Middleton, J. B.	20 West Cliff, Preston.
Morrison, W. L.	Oakes Institute, Walton, Liverpool.
Perkin, G. T. T.	Bourne College, Birmingham.
Spence, B.	Collegiate School, Kettering.
Thomas, D. P.	Gelligaer County School.
[2]Tuck, W. C.	Haverfordwest Grammar School.
Waring, A G.	Cavendish Grammar School, Suffolk.
Webster, J. T.	Higher Grade School, Selby.
Whitten, A. M.	Argyll Ho., Nightingale Lane, S.W.
Allpass, W.	Grafton House School, Manchester.
Atkin, C, S.	New Brighton High School.
Aylward, G. T.	Handel College, Southampton.
Baird, D. E.	Dr. Morgan's School, Bridgwater.
Berry, E.	Ilkley College, Ilkley, Yorks.
Chapman, C. S.	Brunswick House School, Windsor.
Cuthbert, A.	Pierremont College, Broadstairs.
Driver, T. E.	Pomfret College, Pontefract.
Elliot, W.	Ilkley College, Ilkley, Yorks.
Glass, F. W.	Wilsford House School, Devizes.
Hamilton, H.	Highfield School, Chertsey, Surrey.

BOYS, THIRD CLASS—*Continued.*

Hayward, J. O.	Fairleigh School, Weston-s.-Mare.
[2]Mayhew, C. L.	Selhurst Pk. Coll., S. Norwood, S.E.
Methwin, D. G.	Bickerton House School, Birkdale.
Mosley, L. F.	Boscombe High S., Bournemouth.
Ormrod, F. J.	New Brighton High School.
Pool, G. W.	Grammar School, Hayle, Cornwall.
Render, J. F. L.	Leeds Church Middle Class School.
Tyler, C. W.	Elmfield College, York.
Walker, W. F.	Holt House School, Cheshunt.
White, J. D.	High Park Hall College, Ryde, I.W.
Youngs, H.	Arnold College, Leigh, Essex.
Young, T.	Woodford Grammar School.
Charlton, S. E.	Bickerton House School, Birkdale.
Edwards, A. S.	Christ's College, Blackheath.
Elliott, T. J.	Selhurst Pk. Coll., S. Norwood, S.E.
Fair, B. E.	Grammar School, South Shields.
Gillman, J. R.	Balham School, S.W.
Goddard, W. C.	The College, Walton-on-the-Naze.
Grimoldby, G. A.	New College, Margate.
Gregory, A.	Uxbridge Preparatory School.
Guppy, T. R.	Kingston School, Yeovil.
Kirkaldy, T. J. W.	St. Aubyn's, Woodford Green.
Lewis, H.	Collegiate School, Kettering.
[2]Liddell, D. H.	Hadleigh House S., Littlehampton.
Maughfling, T.	Woodford Grammar School.
Milsome, B.	Northgate School, Winchester.
[2]Molyneux, E. J. S.	Knowsley, Torquay.
Neill, P.	Rhodes House School, Manchester.
Ryan, St. J. H. A	Grammar School, Clacton-on-Sea.
Stevens, A. B.	Halbrake S., Wandsworth Common.
Upton, T. H.	St. John's, Worthing.
Witcomb, G. P.	Kingston School, Yeovil.
Woolfenden, E. C.	Bickerton House School, Birkdale.
Browning, H.	Winchester House, Redland, Bristol.
Butcher, P. H.	Christ's College, Blackheath.
Clarke, A. H.	Balham School, S.W.
Ferris, P. H.	Trowbridge High School.
Grimoldby, A.	Collegiate School, Grimsby.
Halsall, T. P.	Bickerton House School, Birkdale.
Hubbard, A. J.	Ellesmere College, Eastbourne.
Jones, C. E.	Winchester House, Redland, Bristol.
Lyle, H. D.	Portland Grammar S., Plymouth.
MacConnal, J.	St. John'sRoy. LatinS., Buckingham.
Norbury, H. C.	Leeds Church Middle Class School.
Pesterre, W. T. A.	Selhurst Pk. Coll., S. Norwood, S.E.
Pow, F. J. S.	Mount Radford School, Exeter.
Shaw, K.	Bilton Grange School, Harrogate.
Stevens, T. S.	Claughton Coll. School, Birkenhead.
Wilkinson, E.	Ilkley College, Ilkley, Yorks.
Williamson, E.	Holmwood, Westmeon, Petersfield.
Adams, W. F.	New Brighton High School.
Altham, G.	New Hall College, Sutton Coldfield.
Blake, G. V.	The Halve, Trowbridge.
Carpenter, A. E.	Hurst Lodge School, East Putney.
Carter, M. F.	Bristol Grammar School.
Cooke, A. V.	Belgrave House, Littlehampton.
[2]Cowley, E. T.	Hadleigh House S., Littlehampton.
[2]Daniels, T.	Cambridge House School, Wigan.
Davies, L. D.	Emanuel S., Wandsworth Common.
Grey, H.	Bilton Grange School, Harrogate.
Kirkman, E. A.	Wimbledon Collegiate School, S.W.
Meredith, R. P.	Private tuition,
Nathan, F. C.	Loughton School, Essex.
Owen, E. S.	The Grammar School, Towcester.
Pearman, H.	Boys' H. S., South Shore, Blackpool.
Read, F. V.	Hillside Villa S., Portland, Dorset.
Rowe, A.	Grammar School, Newton Abbot.
Rymer, R. A.	York Manor School, York.
Shubrook, P. L.	Willesden High School, N.W.
Stokes, W. H.	Sydenham House, Leamington.
Strutt, R. H.	Christ's College, Blackheath.
Tanner, S. C.	Lewisham House, Weston-s.-Mare.

[*The following, having each obtained a Certificate at a former examination, passed with distinction in the subjects indicated.*]

Decantelle, P.	*f. d.*	St. John'sRoyalLatinS., Buckingham
Pink, F.	*f.*	Vickery's, Southsea.
Oppermann, P. H.	*e.*	Henley School, Henley-on-Thames.
Blower, H. H.	*el.*	Wellington College, Salop.
Exley, H. H.	*el.*	Wellington College, Salop.
Grace, F. H.	*el.*	Wellington College, Salop.

GENERAL CLASS LIST — GIRLS.

(*For list of abbreviations, see page* 98.)

FIRST CLASS.—HONOURS DIVISION.

Cardwell, E. D.		Haddo&Westwood Coll.S., Scarboro.
s. f. ger. nat. d. p.		
Ritchie, A. E.		Ladies' College, Wellington, Salop.
s. a. f. ger. nat.		
Millard, L. J.		Red Maids' School, Bristol.
s. e. h. mu. p.		
Linzell, M. *s.f.ch.mu.*		Milton Mount College, Gravesend.
Whitehouse, L.M. *s.f.*		Milton Mount College, Gravesend.
Sedgwick, H. M. H.		College High School, Huddersfield.
s. ger.		
Barmby, A.J. *s.e.f.d.*		Arundel House, Scarborough.
Marr, V. E.	*e. dom.*	Trafalgar Square S., Scarborough.
Lucas, E.	*mu.*	St. Helier's College, Shifnal, Salop.
Love, N.		Alexandra Coll., Shirley, S'hampton.
s. bk. el. dom.		
Gibson, H. M.	*s. h. f.*	Clough School, Reigate.
Woodruff, F. E.		Southolme High S., Whalley Range.
al. nat. mu. dom.		
Prentice, A.M.M.	*s.f.*	Milton Mount College, Gravesend.
Birbeck, M.G.	*e.bk.d.*	St. Mary Church School, Torquay.
Pepper, M. E.	*dom.*	Trafalgar Square S., Scarborough.
Bettis, I.M.	*s. e. f. d.*	Wootton Mount S., Bournemouth.
Jones, K. A.	*s. ger.*	Ladies' College, Wellington, Salop.
Cresswell, K.	*s.dom.*	Girls' Collegiate School, Aldershot.
Thwaites, A.		Langley House, Ashbourne.
d. mu. dom.		
Kettle, H.	*s. e. h.*	Private tuition.
Conery, H.		Convent of Loreto, Hulme, M'chester
Higham, M.	*e.*	Mecklenburg House, Putney Hill.
Stokes, E.B.	*bk.dom.*	Stainsbridge House, Malmesbury.
Fletcher, K.	*s.d.mu.*	Wilber House School, Biggleswade.
Clarke, W.A.	*s.d.mu.*	Milton Mount College, Gravesend.
Mills, E. A.	*d.*	College High School, Huddersfield.
Colman, E.M.	*s.f.ger.*	Clough School, Reigate.
Fowler, D. L.	*s. e.*	Sidcot S., Winscombe, Somerset.

FIRST CLASS.—PASS DIVISION.

Dobbs, G. M.		Ladies' College, Wellington, Salop.
Herbert, M.		Milton Mount College, Gravesend.
Baker, E. M.	*bk.*	Alexandra Coll., Shirley, S'hampton.
Crosoer, E. A.	*mu.*	Lynton House School, Margate.
McWhinnie, F.		Girls' Coll. & High S., Southampton.
Russell, M. B.	*dom.*	Ellerker College, Richmond Hill.
Evans, H. M.	*bk.*	North Bristol School for Girls.
Boulden, M.A. E.C.		Portsea Collegiate School.
Bullock, E. M.	*s.*	Emwell House School, Warminster.
Cotton, M. K.		Polytechnic School for Girls, W.
Affleck, F. B	*dom.*	Ellerker College, Richmond Hill.
Debnam, E. R.	*e.*	Private tuition.
Merriman, A.M.	*e.bk.d.*	High School, Tewkesbury.
Sanders, E. D.	*e. f.*	Sherwood School, Woolwich.
Sharpe, E. F.	*e.*	Warbreck Coll., Aintree, Liverpool.
Armstrong, E.	*s. d.*	Down End, The Avenue, Clifton.
Brown, M. E.	*s. f. d.*	London Coll. Gram. S., Holloway Rd.
Waister, E.		Wolverhampton Ladies' College.
South, L.	*s. d.*	Prospect House, St. Neots, Hunts.
Crisp, E. S.	*s. mu.*	The Chase, Halstead.
Bucciarelli, A. D.	*h. bk. d.*	Pemberton Coll. Up. Holloway, N.
Roper, E. S.		Ladies' College, Wellingtou, Salop.
Hodgkinson, M.	*d.*	Ormeside High School, Llandudno.
McClure, H. M.	*nat.*	Howard College, Bedford.
Appleby, F. M.	*mu.*	Stanley House S., Stockton-on-Tees.
Martin, M. L.	*mu.*	Castle House, Great Malvern.
Glenny, H. F. J.	*d.*	Mecklenburg House, Putney Hill.
McIntosh, K.	*dom.*	Ellerker College, Richmond Hill.
Dunn, D.	*dom.*	Clyde Villa, West Hampstead, N.W.
Harrison, M. I.	*d.*	Carlyon Coll., Chancery Lane, W.C.
Lowe, E. M.	*s. e.*	Moseley High School for Girls.
Pedley, F. L.	*s. mu.*	Wilber House School, Biggleswade.
Hellard, E. F.	*f.*	Summerleigh, Teddington.
Hinton, L. S.	*f.*	Felix High S., Lavender Hill, S.W.
Keevil, L.	*dom.*	Ellerker College, Richmond Hill.
Massingberd-Tealc, B.	*f.*	Mount Vernon, Torquay.
Baker, J. E.		The Chase, Halstead.
Cheeseman, E. M.		Milton Mount College, Gravesend.
Empson, E. M.		Ladies' College, Wellington, Salop.
Giles, G. A.	*d.*	Sidcot S., Winscombe, Somerset.
Mahood, A. B.	*mu.*	Private tuition.
Slade, G.	*e.*	High School, Sydney Place, Cork.
Deane, M. A.	*dom.*	Westbourne House, Cowes.
Harvey, V. M.	*s.*	Arlington House S., Newport, Mon.
Tomkins, E.	*mu.*	Cheyne College, Godalming.
Taylor, L.	*s. bk. dom.*	Parc Bracket Coll. S., Camborne.
Williams, L.M.	*dom.*	Private tuition.
Crew, E. M.		Stainsbridge House, Malmesbury.
Lane, M. W. F.	*s.ger.*	Brentwood, Southport.
Dutton, E.	*s. e.*	Eastholme, Farnham.
Wills, J. M.		Holyoke House School, Penzance.
De Ville, E. M.	*f.*	Holmden Coll., Battenhale, Worcs.
Buckell, V. M.		Ellerker College, Richmond Hill.
Turner, F. M.	*s. f.*	St. Margaret's House, Hove, Sussex.
Berry, G. E.		William Gibbs' School, Faversham.
Butter, M.	*d.*	Poplar Terrace S., Wolverhampton.
Kavanagh, K.	*f. ger.*	Convent of Loreto, Hulme, M'chester
Short, E. M.		Warwick House S., Littlehampton.
Williams, D. M.		Clyde Villa, West Hampstead, N.W.
Davies, L. T.		Rhianva College, Hunstanton.
George, H.L.	*d.dom.*	Ellerker College, Richmond Hill.
Hardy, J.		Sidcot S., Winscombe, Somerset.
Penfold, M.E.J.	*dom.*	Brunswick House, Carlisle.
Taylor, L. R. C.		Red Maids' School, Bristol.
Topham, B. L.	*e.*	Private tuition.
Howell, L. I.	*d.*	Twickenham High School.
Knight, A.	*d.*	Milton Mount College, Gravesend.
Wood, L.		Reginald Terrace School, Leeds.
Burgess, E. R.	*dom.*	High School, Sittingbourne.
Fowler, K.		St. James' Ladies School, Jersey.
Sibley, F.		Prospect House, St. Neots, Hunts.
Sims, F. M.		87 GladstoneRd., Sparkbrook, B'ham
Woodgate, E.M.	*mu.*	Cleveland College, S. Hackney, N.E.
Caton, B.		CarlyonCollege, ChanceryLane, W.C.
Still, E. H.		Emwell House School, Warminster.
Kent, E. A.		Alexandra Coll., Shirley, S'hampton.
Fisher, L. M.		Fairfield College, Exmouth.
Phillips, E.	*p.*	Mountside High School, Hastings.
Roberts, N. A.	*e.*	Priory House, ClaptonCommon, N.E.
Nixon, M.		Ely House, Wolverhampton.
Fleming, E. A.	*s.*	Howard College, Bedford.
Franks, N.	*s.*	Milton Mouut College, Gravesend.
Tetcher, G. L.	*d.*	Arlington House S., Newport, Mon.
Booth, C. M.		Brentwood, Southport.
Child, H. C.	*d.*	The High School, Richmond.
Morley, E. R.		Northbury House, BurySt.Edmunds.
Plummer, B. M.		Woodland House, Thirsk.
Blakey, L. M.		Middle Class S., Vernon Rd., Leeds.
Bringloe, E.	*s.*	Glanavon School, Llandudno.
Ellis, A.	*dom.*	HopeHouse School, Weston-s.-Mare.
Seekings, M. H.		Sidcot S., Winscombe, Somerset.
Kirby, M. C.	*s.*	Arlington House S., Newport, Mon.
Smith, H. L.		Cheyne College, Godalming.
Stevenson, D. M.		Mecklenburg House, Putney Hill.
Wreford, L.M.	*dom.*	Fairfield College, Exmouth.
Gibbon, E. M.		Priory House, ClaptonCommon, N.E.
Daw, M.	*s.*	St. Hilda's, York Road, Exeter.
Glaisyer, E.	*d.*	Sidcot School, Winscombe, Somerset.
Needham, M. A.		The Limes, Buckhurst Hill.
Gettings, M. M.		Wolverhampton Ladies' College.
Heslop, M.	*f. mu.*	The Towers, Saltburn-by-Sea.
Hutchinson, E. B.		Irvine House, Wilson St., Derby.
McConaghy, J. H.		Felix High S., Lavender Hill, S.W.
O'Meara, M. K.		Woking High School.
Cooper, S. B. E.		Mount Vernon, Torquay.
Goulding, M. E.		Collingwood College, Lee, S.E.
Helby, N. C.		Clyde Villa, West Hampstead, N.W.
Hill, L. M. H.		54 Sutherland Avenue, W.
Hone, E. B.	*s.*	High School, Bromyard, Worcester.
Parkhouse, A.M.	*mu.*	St. Hilda's, York Road, Exeter.
Borton, C. M.		Ellesmere House, Whitchurch.
Baker, L. F.		Wolverhampton Ladies' College.
Wavish, W.		Stoke School for Girls, Devonport.
Steggall, C. E.		Polytechnic School for Girls, W.
Tower, E.		Polytechnic School for Girls, W.
Blake, G.		Ely House, Wolverhampton.
Lomax, M. M.	*d.*	Sherwood School, Woolwich.
Pinchin, F. E.		Alexandra Coll., Shirley, S'hampton.
Podmore, A. J.		Ladies' College, Wellington, Salop.
Francis, E.		High S., Christch. Rd., Folkestone.
Portway, M. E.	*s. d.*	Lynsted Ladies' S., Green St., Kent.
Woodhams, A. M.		Nevill College, Tunbridge Wells.
Wells, A.		The Collegiate S., Buckhurst Hill.
Latham, M. E.	*d.*	Priory House, Micklegate, York.
Suggitt, E. M.		Arundel House, Scarborough.
Kochs, A. L.		S. Margaret's, Richmond Rd., Cardiff.
Jones, F.		Private tuitiou.
Lord, S. A.	*f.*	Private tuition.
Linskill, D. L.		Arundel House, Scarborough.
McArthur, A.		Private tuition.
Mitchell, A. S. B.	*d.*	54 Sutherland Avenue, W.
Pybus, I. E.		Stanley House S., Stockton-on-Tees.
Yates, F. M.		Hyde House S., Tollington Park, N.
Bulpitt, M. R.		Stainsbridge House, Malmesbury.
Joues, E.	*e.*	Milford House, Abergavenny.
West, D.		Down End, The Avenue, Clifton.
Perry, E.	*s.e.*	Private tuition.
Nichols, F. G.		Rhianva College, Hunstanton.
Russell, M. F. T.		Private tuition.
Behn, M. S.		Private tuition.

SECOND CLASS.—1ST DIVISION.

Howard, S.		Newnham School, Harlesden, N.W.
s.f. nat. dom.		
March, N. H.	*ch.*	Hr. GradeS., GrangeRd., Sunderland.
[1]Cawston, F. E.		St. John's, South View, Eastbourne.
s. d. mu.		
Willis, M. R.	*s. d.*	Moseley Ladies' College.
Turton, K.		The Cowley Schools, St. Helens.
[1]Hobson, E. C.	*dom.*	Ellerker College, Richmond Hill.
[1]Whistler, E. M.		Private tuition.
[1]Taylor, M. B.		Brenholly, ClythaPk., Newport, Mon
Cousens, E. A.	*d.*	The Lymes, Sudbury, Suffolk.
Scammell, D.		West Central Collegiate School, W.C.
Andrews, A.M.	*mu.*	Private tuition.
[1]Finnis, E. M.	*dom.*	Hughenden, Bexhill.
Roper, J. M.		Arundel House, Scarborough.
Fountain, M. D.		Wynaud House, Bowes Park, N.
Smith, E. A.		Gravesend Moderu School.
[1]Scott, M.	*f.*	3 Montague Terrace, Hr. Broughton.
Cooke, A. M.		The Downs, Walmer.
Crowther, W.		County School, Bethesda, N. Wales.
Robinson, N.	*mu.*	Russell House School, Gt. Grimsby.
Waterhouse, T.C.	*bk.*	The Crossley and Porter S., Halifax.
Duxfield, M.	*mu.*	Higher Grade School, Southport.
Luscombe, E.		Camden School for Girls, N.W.
Birch, M. G.		Holly Bank, Wilmslow.
[1]Campbell, E. A.		Warwick House S., Littlehampton.
Whitaker, M. H.		Private tuition.
Neil, L.		Higher Grade School, Southport.
Toogood, M. A.		Red Maids' School, Bristol.
Cooke, E. S.		The Downs, Walmer.
Tucker, M. P.		Milton Mount College, Gravesend.
Brison, M. L.		Sidcot S., Winscombe, Somerset.
Michie, L. M.		Girls' Collegiate School, Aldershot.

GIRLS, SECOND CLASS—*Continued.*

Bedell, E. W.		St. Hilda's, Eastbourne.
[1]Jones, A. R.	*d.*	College House, Newbury.
Arrowsmith, M. L.		The Cowley Schools, St. Helens.
Crosskey, D.		West Hill House, Eastbourne.
Havelock, V. C.		Camden School for Girls, N.W.
Smith, K. M.		Middle Class S., Vernon Road, Leeds.
Fountain. M. A.		Wynaud House, Bowes Park, N.
Brett, G.		Mecklenburg House, Putney Hill.
Delday, V.		Trafalgar Square S., Scarborough.
Hill, E. S.		The Crossley and Porter S., Halifax.
Shaw, I. W.		Gravelly Hill High S., Birmingham.
Millington, B. F.	*p.*	Ladies' College, Wellington, Salop.
Alcock, E. M.		Haddo & Westwood Coll. S., Scarboro.
Burnell, A.		Eton House School, Sheffield.
Fielden, F.		Kilmar House School, Liskeard.
Scott, D. S.	*mu.*	Highfield, Beccles.
Stubbs, E. H.		St. Helier's College, Shifnal, Salop.
Barmby, M. E.		Arundel House, Scarborough.
[1]Bloomer, M. A.		Poplar Terrace S., Wolverhampton.
Burnell, E. C.		Yeovil High School for Girls.
Culverwell, M.		Grosvenor School, Wokingham.
[1]Waterhouse, K. E.		Milton Mount College, Gravesend.
	s. d.	
Bennett, F. L.		Girls' Collegiate School, Aldershot.
Hodgson, C. E.		The Crossley and Porter S., Halifax.
[1]Owen, E. G.		Private tuition.
Riddell, C.		Ladies' College, Wellington, Salop.
Haines, A. M.		West View, Alstonefield, Ashbourne.
Macuamara, M. I.		High School, Sydney Place, Cork.
Grundy, A. R.		The Crossley and Porter S., Halifax.
Westerby, M.		Milton Mount College, Gravesend.
Dawson, A.		William Gibbs' School, Faversham.
Stokoe, M. B.		St. Maur College, Chepstow.
Brightwen, E. C.		Haddo & Westwood Coll. S., Scarboro.
Clarson, D.		Ladies' College, Wellington, Salop.
Foster, L.		Haddo & Westwood Coll. S., Scarboro.
[1]Gibbs, W. A.		Westcombe House, Brighton.
Crosoer, M. L.		Lynton House School, Margate.
Seys, G. J.		Milford House S., Newport, Mon.
Ball, M.	*dom.*	Whitehall, Romford Rd., Forest Gate.
Speake, H.		The Crossley and Porter S., Halifax.
[1]Heslop, A.		The Towers, Saltburn-by-Sea.
Marshall, N. E.		The Crossley and Porter S., Halifax.
McKenna, M.		Convent of Loreto, Hulme, M'chester.
Thomas, M.		Greystone, Handford Hill, Yeovil.
Willcox, E. H.		Red Maids' School, Bristol.
[1]McCarthy, H.		Ellesmere, Sydenham Rd., Sydnhm.
Walker, E.		Higher Grade School, Southport.
Wasson, E.		Stanley House S., Stockton-on-Tees.
Barrett, F. M.		The Crossley and Porter S., Halifax.
Bartle, M. M.		St. Nicholas School, E. Dereham.
[1]Montgomery, C.		Carden School, Peckham Rye, S.E.
Richardson, B.		Wynaud House, Bowes Park, N.
Tripp, A. E.		Girton House, Hull.
Venn, H.		Greystone, Handford Hill, Yeovil.
Way, F. E.		Red Maids' School, Bristol.
Balstone, E. B.		Sidcot S., Winscombe, Somerset.
Hall, E. S.		Camden School for Girls, N.W.
[1]Lewis, M.	*d.*	Sherwood School, Woolwich.
Robins, G. M.		Beresford Lodge, Tulse Hill, S.W.
Strahan, W. M.		St. John's, South View, Eastbourne.
[1]Whitley, E.		St. James' Ladies' School, Jersey.
Wills, J. E.	*bk.*	Grosvenor College, Bath
Crowther, E.		County School, Bethesda, N. Wales.
[1]Hickox, C. R.	*e.*	Cromwell House, Earl's Court, S.W.
Hill, D.	*mu.*	Russell House School, Gt. Grimsby.
Benson, E.		Higher Grade School, Southport.
[1]Butler, E. K.	*mu.*	Hurst Leigh, Southampton.
Crooke, A.		High School, St. Anne's-on-Sea.
Hardiman, E. R.		Polytechnic School for Girls, W.
Spring, G. E.		The Crossley and Porter S., Halifax.
Taff, E. E.		The George Green Schools, Poplar.
Crowther, A.		The Crossley and Porter S., Halifax.
Fox, E. W.		Grafton House, High Rd., Lewisham.
Ingles, C. E.		Camden School for Girls, N.W.
Lindsey, E.		Cavendish House S., Portsmouth.
Bolton, F. A.		Oakfield School, Handsworth.
Moresby, A. A.		Salisbury House, Littlehampton.
Randle, W. M.		Towcester School.
Staddon, M. M.		Girls' Middle School, Tiverton.
Wild, A. L.		21 Home Pk. Villas, Stoke, Devonport.
Allen, S. A.		St. Bernard's, Southsea.
Green, A. M.		Lonsdale House School, Norwich.
Hall, H. A.		Guildown Coll. S., Tunbridge Wells.
Holgate, A.		Colne Road, Middle Class S., Burnley.
Mellowes, E.		Stanley House S., Stockton-on-Tees.
Turner, B. M.		West Holme, Clacton-on-Sea.
Webb, E. E.		Camden School for Girls, N.W.
Aylen, D.		Cavendish House S., Portsmouth.
Churchill, C. L.		Mecklenburg House, Putney Hill.
Fairclough, L.		Convent of Loreto, Hulme, M'chester.
[1]Harvey, R. K.		Down End, The Avenue, Clifton.
Klosz, E. M.		Howard College, Bedford.
Baylcs, H. C.		Eastholme School, Lowestoft.
Carvell, A. E.		Somerville School, Nottingham.
Chapman, C. L.		Nevill College, Tunbridge Wells.
Gibson, A.		Tentercroft School, Lincoln.
Nott, M. E.		Private tuition.
Turgoose, E. B.		The Elms, Sutton-on-Trent.
Watson, E. M.		Private tuition.
Willcox, A. K.		Red Maids' School, Bristol.
Botterill, C.		Haddo & Westwood Coll. S., Searboro.
Bound, G. M.		Oakley High School, Southsea
Donovan B.	*d.*	Convent of Loreto, Hulme, M'chester.
Hawkins, K. M. H.		Private tuition.
Menzies, A. B.		Southolme High S., Whalley Range.
Pittard, N. B.		Reckleford Cross School, Yeovil.
Sanford, F. M.		Fern Bank, Dartmouth Pk. Rd., N.W.
Turnbull, G.		Stanley House S., Stockton-on-Tees.
Anderton, D.		The Cowley Schools, St. Helen's.
Glenny, H. M.		Mecklenburg House, Putney Hill.
Luce, A. F.		14 Elizabeth Place, Jersey.
McCubbin, A. T.		26 Trinity Rd., Bootle, Liverpool.
[1]Pengelly, B.		Warwick House S., Littlehampton.
Twycross, B.		Private tuition.
Hussey, D.A.		Dixfield School, Exeter.
Israel, L.	*mu.*	Summerfld. H., Maesyewmmer, C'diff
Jamieson, M. A.		Calthorpe House School, Banbury.
Johnson, A. L.		Girls' Collegiate School, Aldershot.
Phillips, M. H.		West Hill House, Eastbourne.
Rossiter, B. M. I.		Elm Lodge, Petersham.
Ruston, J. M.		Milton Mount College, Gravesend.
Bennett, J. H.	*mu.*	Hoghton Terrace School, Southport.
Maddock, A. G.		Milford House S., Newport, Mon.
Campbell, H. M.		St. Hilda's, Eastbourne.
Hanby, A.		Red Maids' School, Bristol.
McCullum, F. A.		Clarence House, Filey.
Scott, M. E.	*f.*	Lyncroft Coll., Holmesdale Rd., Kew.
Tyson, E.		Brunswick House, Carlisle.
Butterworth, C.		Bishopston Girls' High S., Bristol.
Dunn, I. M.		Clyde Villa, W. Hampstead, N.W.
Seymour-Ure, G. E.		West Ham High School, E.
[1]Truman, D. C.		87 Gladstone Rd., Sparkbrook, B'ham.
[1]Andrew, E. T.		Salisbury House, Littlehampton.
Cotton, E. G.		Burlington Middle Class School, W.
Drowley, A.		Polytechnic School for Girls, W.
Haigh, M. W.		St. George's College, Barnsley.
Leith, M. F.		The Cowley Schools, St. Helens.
Taylor, B.		Brackley House, Herne Bay.
Turnbull, L.		Stanley House S., Stockton-on-Tees.
Allen, E. M.		Guildown Coll. S., Tunbridge Wells.
Chinneck, W. G.		Private tuition.
Edwards, N. J.		Parc Bracket Coll. S., Camborne.
Giles, F.		Oakhurst, Mount Pk. Rd., Ealing.
Hayes, R. F.		Holmcroft College, Loughton.
Margetson, D. J.		West Green Coll., S. Tottenham.
Nott, E. B.		Howard College, Folkestone.
Parker, E. H.		Clyde Villa, West Hampstead, N.W.
Prickett, M. E.		Rose Bank, Sandown, I.W.
[1]Reeves, L.		Martigny House, Melksham, Wilts.
Baird, F. M.		Silverdale S., Oxton, Birkenhead.
Bennett, G. E.		Brunswick House S., Kingston Hill.
Berlon, M. C.		The Crossley and Porter S., Halifax.
Carey, F. H.		Trinity House, Trinity Square, S.E.
Frape, V. I.		Burgess Hill High School, Sussex.
Johnson, H. M.		Melrose College, St. Leonards.
Leser, A. C. E. D.		Auckland Ho., The Pk., Nottingham.
Moore, M. N.		Glencoil College, Deal.
Parsons, E. L.		Lynton House School, Margate.
Phillips, S. P.		Mount Pleasant S., Barnsley, Yorks.
Stevenson, F. M.		Girls' School, Atherstone.
[1]Callaway, G. M.		Eversley House S., Willesden Green.
Liddle, M.		Waterloo, Newbury.
[1]Morris, M. F.		Wellington College, Hastings.
[1]Prout, B.		Milton Mount College, Gravesend.
Twycross, M.		Private tuition.
Marsh, M. F.		Byfield House, Painswick.
Rintoul, E. G.		Burlington Middle Class School, W.
Watson, M.		Mowbray School, Sunderland.
Williamson, M.		Ely House, Wolverhampton.
Armitage, F. R.		Hope House S., Weston-super-Mare.
Blewitt, D.		West Ham High School, E.
Brown, H. M. H.		Westbourne House, Cowes.
[1]Hatch, A. B.	*s.*	Twickenham High School.
Newton, M. E.		Collingwood College, Lee, S.E.
Potter, E.		Polytechnic School for Girls, W.
Simes, M.B.		Girls' Collegiate School, Aldershot.
[1]Watson, B. M.		Ellesmere House, Whitchurch.
De Bels Adam, H.		Elphinstone College, Putney.
Dunning, J. E,		Oakleigh High School, Southsea.
Garton, V. G.		Kensington High School, W.
Jenkins, S. L.		Milton Mount College, Gravesend.
Jones, D.		Summerfld. H., Maesycummer, C'diff.
Liddiard, M.		Bardon House, High Wycombe.
Norman, S.		Beecholme College, Belper.
Pope, M.		1 Adelaide Terrace, St. Luke's, Cork.
Robinson, D. B.	*dom.*	Fairfield College, Exmouth.
Robinson, M. E.		Wynaud House, Bowes Park, N.
Rogers, R. M.	*mu.*	Ladies' Collegiate S., Queen St., Deal.
[1]Simpson, E.		The Lymes, Sudbury, Suffolk.
Willocks, C. M.		High S., Christchurch Rd, Folkestone
Adames, C.		Oakley High School, Southsea.
Branford, E.		William Gibbs' School, Faversham.
Dobbs, B.M.	*mu.*	Oxford Lodge, Wolverhampton
[1]Higgins, E. C. M.		Carlyon Coll., Chancery Lane, W.C.
Morris, B. M.		Severn Bank, Shrewsbury.
Pierce, M.		County School, Bethesda, N. Wales.
[1]Smalley, A.		Sidcot S., Winscombe, Somerset.
Williamson, J. M.		Albany High School, Brighton.
Baker, M.		Ladies' College, Wellington, Salop.
Bromley, A. C.		Rosebank School, Alton, Hants.
Buttifant, D. M.		Lithend Ladies S., Bishop's Waltham
Chant, W.E.		Clyde Villa, West Hampstead, N.W.
Constant, H.		Ryeford Hall, Stonehouse, Glos.
Derriman, L. A.		Avonbank House School, Bath.
Hibbert, M.E.		The Crescent School, Taunton.
Slade, D.		York House, Stony Stratford.
Summers, A. M.		Arundel House, Searborough.
Sutherland, F.A.A.		E. Devon County S., Cullompton.

SECOND CLASS.—2ND DIVISION.

Angwin, J. L.		Emwell House School, Warminster.
Bullock, M. E.		Emwell House School, Warminster.
Collbran, F. M.	*mu.*	Wellington House, Hailsham.
Daughish, M. L.		45 The Avenue, Kew Gardens.
Dibdin, E. M.		Winslow Villa, Sutton, Surrey.
[1]King, A. L.	*s.*	Private tuition.
Kinnear, M. I.	*s.*	Wellington House S., Eastbourne.
Turner, A. G.		Beresford Lodge, Tulse Hill, S.W.
Turner, L. G. St. C.		Beresford Lodge, Tulse Hill, S.W.
Banks, M. E.		Brunswick House, Carlisle.
Bartholomew, M.G.		Buxton Lodge Collegiate S., Luton.
Burr, E. L.		Camden School for Girls, N.W.
Doherty, M. A.		Adelphi House, Salford.
Fidler, M.		College House, Newbury.
Graves, M.		Ashley House School, Worksop.
Griffith, E. R.		Clyde Villa, West Hampstead, N.W.
[1]Noakes, G. D.		Elm Lodge, Petersham.
Pearce, J.		Oakleigh, Bowdon, Cheshire.
Ridgway, M.		Polytechnic School for Girls, W.
Stephens, H. D.		Woolwich High School for Girls.
Underwood, A. A.		Private tuition.
Williams, E. V.		Mecklenburg House, Putney Hill.
Baker, L. M.		Cornwallis High School, Hastings.
Borthwick, H.		Brunswick House, Carlisle.
Bruce, M. T.	*mu.*	Avonbank House School, Bath
Chambers, E. C.		Queen's Coll., Haverstock Hill, N.W.
[1]Chapman, I. C.		Neville College, Tunbridge Wells.
Crawford, E. E.		Brookville, Filey.
Dowley, E. H.		Waldron House, Havant.
Fynes-Clinton, I.N.K.		Netherleigh, Blandford.
[1]Symes, S.		Reckleford Cross School, Yeovil.
Turner, F. P. G.		Lymehurst, Shrewsbury.
Wetherald, A.		Higher Grade School, Southport.
Beagent, E.		Cornwallis High School, Hastings.
Bunch, N.		Ladies' College, Wellington, Salop.
Gruggen, P. H.		3 Argyle Road, Tunbridge Wells.
Hammonds, M. C.		Shrewsbury High School for Girls.
Ives, E. J.		St. Winifred's, Southampton.
Robinson, A. G.		Lilford College, Scarborough.
Vander Weegen G.		Polytechnic School for Girls, W.
Wakelin, M.	*bk.*	Grove House, Braintree.
Watkins, M.		Avon House S., Bradford-on-Avon.
White, E. F.		21 Home Pk. Villas, Stoke, Devonport.
Adair, A. E.		Penketh Friends' S., Warrington.
Amor, M. L.		Bishopston Girls' High S., Bristol.
Ashby, J.		Higher Grade School, Southport.
[1]Brealy, E. E.		St. Hilda's, York Road, Exeter.
Collens, E. M.		Oak Villa School, Wrexham.
Davies, H. G.		Ladies' College, Hereford.
Groom, N. P.		Ladies' College, Wellington, Salop.
Morton, E. K.		Glenholme School, Paignton.
[1]Norman, M. J.		Red Maids' School, Bristol.
Paramore, E. L.		Camden School for Girls, N.W.
Parish, E. M.		Wilber House School, Biggleswade.
[1]Pring, C. E.		Private tuition.
Reed, F. M.		Stanley House S., Stockton-on-Tees.
Ritson, A.		Mowbray School, Sunderland.
Ross, G. G.		Gothic Hall S., Highgate Rd., N.W.
Shaw, C.		High School, St. Anne's-on-Sea.
Smith, E.		Beecholme College, Belper.
Thompson, A. J.		Henry Street School, Bolton.
Wallace, M. G.		The Manse, Malvern Wells.
Williams, M. E.		Rosemount College, Bath.
Wilson, A. L.		Victoria House S., Tean, Stoke-on-T.
Balkwill, S.		Private tuition.
Cartwright, J. F.		Belmont, Derby.
Chesterfield, F. E.		Rosebank School, Alton, Hants.
Courtenay, M. I.		St. Hilda's, Eastbourne.
deCronenthall, M.J.E.		Anglo-French Coll., Maida Hill, W.
Hughes, W. M.		Beresford Lodge, Tulse Hill, S.W.
McDonald, E.		The Crossley and Porter S., Halifax.
Miskin, E.		William Gibbs' School, Faversham.
[1]Adkins, E. E.	*d.*	Portway House School, Bath.
Baker, M.		3 Pembridge Gardens, Bayswater, W.
[1]Calloway, D. E.		Portswood College, Southampton.
Chapman, N.		Langton House S., Bury St. Edmunds.
Chipperfield, M.		Eastholme School, Lowestoft.
Denton, A. M.		Arundel House, Scarborough.
Haig, W. R.		Birchington Bay College, Thanet.
Leyland, D. W.		Girls' Grammar School, Halifax.
Nixon, C.		Penketh Friends' S., Warrington.
Raban, G. L.		Grove House, Baldock, Herts.
Sykes, B.		Huntcliffe House, Harrogate.
Vobes, L. E.		Albany High School, Brighton.
Brooker, M. E.		Camden School for Girls, N.W.
[1]Ellis, C.	*dom.*	Twickenham High School.
Herridge, M. E.		Devonshire House S., Wincanton.
Hurrell, T. J.		Girls' Grammar School, Rochester.
Massey-Crosse, C.A.		Private tuition.
Morison, L.		Camperdown, West Norwood, S.E.
Seward, L. H.		Malvern House, Reading.
Seymour, B.		Adelphi House, Salford.
Shepherd, E. A.		Malvern House, Reading.
Stevenson, A. E.		Betley Ladies' College, Crewe.
Teague, R. E.		High School, Bromyard, Worcester.
Davis, G.		136 Brooke Rd., Stoke Newington.
Farrant, M. A.		St. Mary Church School, Torquay.
Griffiths, A. U.		Warwick House, Poulton-le-Fylde.
[1]Hardy, B. J.		Grafton House, Lewisham High Rd.
Hassan, E.		Private tuition.
Jeffery, M. L. L.	*mu.*	The Villa, Bexley Heath.
Jennings, E.		Russell House School, Gt. Grimsby.
[1]McDowall, M.		Carden School, Peckham Rye, S.E.
Mordin, G.		136 Brook Rd., Stoke Newington.
Nicholson, E.		Arundel House, Scarborough.
Ramage, T. A.		West Hill House, Eastbourne.
Williams, G.		County School, Bethesda, N. Wales.
Avery, R. M.		Milton Mount College, Gravesend.
Ball, G. M.		Mecklenburg House, Putney Hill.
Barber, Z. A.		21 Home Pk. Villas, Stoke, Devonport.
Cooke, E. A.		Waldron House, Havant.
Corke, A.		Crofton Leigh, Bowdon, Cheshire.
Croft, V. E.		Sultan House School, Margate.
Harries, M. M. E.		Severn Bank, Shrewsbury.
Landquist, G. E.		Holmcroft College, Loughton.
[1]McNicol, M. M.		Polytechnic School for Girls, W.
Moore, E. A.		Glencoil College, Deal.

GIRLS, SECOND CLASS—*Continued.*

Powell, H. A.	Burlington Middle Class School, W.
Robertson, W. J.	Private tuition.
Tucker, K. E.	Irvine House, Wilson Street, Derby.
Turgoose, E. M.	The Elms, Sutton-on-Trent.
Tyson, E.	St. John's, South View, Eastbourne.
Wild, I.	Hamilton House School, Margate.
Wilson, M. A.	Arundel House, Scarborough.
Brunker, C. H.	Camden School for Girls, N.W.
Carmichael, J. H.	The Downs, Walmer.
Fletcher, D. K.	Girls' Grammar School, Rochester.
Bonwick, M. L.	Knightsville College, Hove, Sussex.
Clapham, M. F. *d.*	Private tuition.
Denny, J. M.	Middle Class S., Vernon Rd., Leeds.
Faulkner, E. M.	Ashleigh House, Tetbury.
Flatman, E. L.	Camden School for Girls, N.W.
Hicks, C. M.	Sterndale School, Wallington.
Jones, A. M. *mu.*	Waverley College, Stroud Green, N.
Lomax, L.	The Cowley Schools, St. Helen's.
Nichols, E. A.	Wilber House School, Biggleswade.
[1]Rees, H. G.	Private tuition.
Stevens, F. L.	Hope House S., Weston-super-Mare.
Stones, L.	St. George's House, Doncaster.
Stott, M.	High School, St. Anne's-on-Sea.
Boyes, I. A.	Headland College, Plymouth.
Hayles, M. A.	Wharncliffe Ho. S., Sandown, I.W.
Leigh, A.	Lynton House School, Margate.
Leslie, L. A. S.	Eastholme School, Lowestoft.
Levett, A. E.	Guildown Coll. S., Tunbridge Wells.
Tunney, M. M.	Ladies' S., St. Mary's St., Bungay.
Barnes, E. R.	Oxford House School, St. Leonards.
Burgess, W.	Oakleigh, Bowdon, Cheshire.
Burrow, M. A. E.	High School, Bromyard, Worcester.
Davis, I. M.	Private tuition.
Evans, E. V.	Milton Mount College, Gravesend.
[1]Franklin, M. M.	Ellerker College, Richmond Hill.
Kidney, E. A.	Holly Bank, Wilmslow.
Neville, L.	Buckingh'mHo.,RavenscourtPk.,W
Powell, E.	Summerfld Hl.,Maesycwmmer,C'df.
Squires, E. C.	The High School, Richmond.
Whiteside, E. B.	The Crossley and Porter S.,Halifax.
Blackett, E. K.	Highfield, Beccles.
Butcher, H. L.	Emwell House School, Warminster.
Dyke, A. L.	Devonshire House S., Wincanton.
Elbrow, M. M.	Girls' Grammar School, Rochester.
Eyden, G. E.	The Cowley Schools, St. Helen's.
Ford, E. S.	Girls' High School, Maidenhead.
Hornsby, G.	Hampden Lodge, Moseley, B'ham.
Hyde, F.	Queen's College, Twickenham.
Keen, O. M. V.	The Maze, Bournemouth.
Masters, M. I. H.	35 Dulwich Road, Herne Hill.
Plummer, L. C.	High School, The Sands, Swindon.
Ramsay, A. E.	Collegiate School, Brentford.
[1]Sherburn, E.	Goole Grammar School.
Smith, O.	Martigny House, Melksham, Wilts.
Swanson, M. C.	Camden School for Girls, N.W.
Attwood, E.	Arundell House, Tisbury, Wilts.
Beart, K.	Maida Vale College, W.
Bradfield, M. E.	The Woodroughs, Moseley, B'ham.
Dewing, M. D.	Eversley, Bexhill.
Fry, E.	Girls' Grammar School, Rochester.
Hind, M. E.	Woolston Ladies' Coll., S'hampton.
Kelly, A.	Conventof Loreto,Hulme,M'chester.
Savage, E. M.	Mecklenburg House, Putney Hill.
Smalley, E.	The Manor House School,Uttoxeter.
[1]Stead, M. L.	Ely House, Wolverhampton.
Taylor, A.	Oakwood House, Brighton.
Airey, E. E.	The Cowley Schools, St. Helen's.
Blythe, L.	Ashley House School, Worksop.
Booth, E. M.	Moseley High School for Girls.
Brown, L. M.	Wharncliffe House S.,Sandown,I.W.
Bulgin, M.	Rockend, Brixham, South Devon.
Champness, M.	Ivy House Coll. S., Crouch Hill, N.
Dutson, M. H.	St. Maur College, Chepstow.
Frape, G. C.	Burgess Hill High School, Sussex.
[1]Fryer, J.	Hyde House S., Tollington Park, N.
Mellor, K. A.	West View, Alstonefield,Ashbourne.
Preston, E. F.	Langley House, Ashbourne.
Raymond, D.	Yeovil High School for Girls.
Shaw, K.	William Gibbs' School, Faversham.
Spurrell, D.	Norbury, Hartfield Sq., Eastbourne.
Stanes, E.	Greystone, Handford Hill, Yeovil.
Tregaskis, B. M.	Red Maids' School, Bristol.
Ward, E. E.	Cornwallis High School, Hastings.
White, D.	Salisbury House, Littlehampton.
Atkinson, I. F.	Westfield House, Longford, Glos.
Avern, M. B.	Mecklenburg House, Putney Hill.
Baker, J. B.	Collegiate School, Brentford.
Braun, A.	Waterloo, Newbury.
Dayson, E. M.	Private tuition.
Hamilton, E. M.	Lymehurst, Shrewsbury.
Jones, F. A.	Fern Bank, Wandsworth Common.
[1]Maxted, A. S. M.	Grafton House, Lewisham High Rd.
Meaden, M. H.	St. John's, South View, Eastbourne.
Orpen, A. E.	Dorchester HouseS.,Clacton-on-Sea.
Shawyer, D. L.	High School, The Sands, Swindon.
Silvermann, H.	16 Fortess Rd., Kentish Town, N.W.
[1]Walter, L. K.	Ellerker College, Richmond Hill.
Whitelaw, L.	Hyde House S., Tollington Park, N.
Wrixon, M. E.	4 St. Luke's Place, Cork.
Chapman, K. E.	Nevill College, Tunbridge Wells.
Gale, L.	Private tuition.
Goodwin, E, L. A.	The George Green Schools, Poplar.
Monson, H. M.	Westcombe House, Brighton.
Proeter, E.	35 Dulwich Road, Herne Hill.
Reynolds, M. A.	Belmont House School, Norwich.
Vickers, B.	Lansdowne House, St. Colomb.
Willis, M. A.	Westcombe House, Brighton.
Bree, L. M.	Ashton House School, Jersey.
Eden, B.	Camden School for Girls, N.W.
Edwards, F. A.	West Central Collegiate S., W.C.
Harnett, E. R.	Girls' Grammar School, Rochester.
King, M. V. *mu.*	Addiscombe High School, Croydon.
Leach, C. E.	Wynaud House, Bowes Park, N.
Manning, L.	Somerville House, Northampton.
Müller, K. G.	38 St. Peter's Rd., South Croydon.
Nicoll, J.	Brentwood, Southport.
[1]Skitt, C. S.	Ellesmere House, Whitchurch.
Alexander, F. E.	College House, Hungerford.
Alger, M. C. H.	Milford House S., Newport, Mon.
Cockerell, L. M.	Brookside School, Darlington.
Dunkerley, M.	The Hawthorns, Ealing Common,W.
Eldridge, C.	St. Hilda's, Dover.
[1]Ellis, G.	Melbourne House Coll., Clapton Sq.
English, L. M.	Worcester Road School, Redditch.
Finch, F. B.	HaldonView,St.David's Hill,Exeter.
Kirkman, S.	4 St. Luke's Place, Cork.
McLaurin, M.	Eton House School, Sheffield.
Moth, V. E.	Curzon House, Portsmouth.
Slade, A. A.	York House, Stony Stratford.
Stokoe, E.	Crofton Leigh, Bowdon, Cheshire.
Wolfe, A.	Copthorne, The Drive, W. Brighton.
Wright, E.	Mowbray Place School, Thirsk,
Anns, R. M.	The Limes, Sudbury, Suffolk.
Berridge, E. M.	Private tuition.
Cullis, N. M.	Leaholme College, Cirencester.
Davies, A.	Summerfld.Hl.,Maesycwmmer,C'df.
Haes, E. P. J.	Mecklenburg House, Putney Hill
Harris, M. R.	St. John's South View, Eastbourne.
[1]Heaton, A. J.	Penrith School, Stamford Hill, N.
Jenkins, F. A.	Curzon House, Portsmouth.
Roots, H. C.	Private tuition.
Rose, A. M.	Poplar Terrace S., Wolverhampton.
Smith, I.	Betley Ladies' College, Crewe.
Starkie, S.	Girls' High School, Nelson, Lancs.
[1]Thomas, E. I.	Sherwood School, Woolwich.
Titlow, U. M.	Waveney House S., Harleston.
Wallace, M. L.	Dagmar House School, Hatfield.
Watts, M.	Lithend Ladies'S., Bishop'sWaltham
Webb, B.	45, The Avenue, Kew Gardens.
Yeld, A.	Ladies' College, Hereford.
Cloake, M. L.	St.Margaret's,RichmondRd., Cardiff
Collins, N. A.	Norbury, Hartfield Sq.,Eastbourne.
Coad, B. L.	Howard College, Bedford.
Cox, G. L.	Longford Girls' School, Bristol.
Cumner, G. M.	Mayfield College, Marlborough.
Gosling, A.	Victoria House S., Tean,Stoke-on-T.
Hannam, E. J.	Devonshire House S., Wincanton.
Harland, E. M.	Private tuition.
Hawkins, H. C.	Cambridge House S., Chichester.
Howlett, O. J.	The Crescent School, Norwich.
Marriott, M.	Ely House, Wolverhampton.
Mitchell, E. M.	Minerva College, Dover.
Ritchie, J. M.	Ladies' College, Wellington, Salop.
Rogers, E. G.	Summerland College, Honiton.
Saword, E. N.	Rosebank School, Alton, Hants.
[1]Bundle, G. M.	The College, Churwell, Leeds.
[1]Chambers, B.	Sherwood School, Woolwich.
Fryer, M. A.	Irvine House, Wilson Street, Derby.
Holgate, C.	Colne Road Middle ClassS.,Burnley.
Holme, C. M.	The Hollies, Great Malvern.
Hulbert, M. C.	Mecklenburg House, Putney Hill.
Miles, A. G.	Elmhurst High S., Burgess Hill.
Parkin, M. L.	College High School, Huddersfield.
[1]Pippet, A.	Convent High S., Loughborough.
Querée, M. L.	14 Elizabeth Place, Jersey.
Robins, L. H.	The Elms, Sutton-on-Trent.
Roth, D.	Carleton College, Tufnell Park, N.
Sampson, J.	136 Brooke Road, Stoke Newington.
Whitehead, M. L.	H. of Educatn., Honor OakRd.,S.E,
[1]Baily, L.	County School, Bethesda, N. Wales.
Collen, W. A.	Langton House, Bury St.Edmund's.
Corfield, M.	New College, Southampton.
Culshaw, M.	The Cowley Schools, St. Helens.
Dampney, C. A.	Netherleigh, Blandford.
Dickes, M.	BeechenCliffColl.,PeckhamRye,S.E.
Emerson-Smith,H.	Down End, The Avenue, Clifton.
Fielding, G. M.	New College, Southampton.
Genge-Andrews,A.M.	Yeovil High School for Girls
Hamilton, F. L.	Hemdean House, Caversham.
Hart, M. G.	Malvern House, Reading.
Llewellin. E. S.	Clarendon College, Clifton, Bristol.
Mathew, H. M.	Melrose College, St. Leonards.
Seward, E.	The Grescent School, Taunton.
Townshend, E. B.	Glengyle, Cheltenham.
Benson, T. A.	Private tuition.
Cartwright, A. B.	Leigh Bank College, Leamington.
Clarke, M. L.	Crofton Leigh, Bowdon, Cheshire.
Coles, K. F.	Private tuition.
Field, E. M.	High School, Reading.
Gardner, J. R. *mu.*	Northlands, Blackpool.
Gray, J. A. P.	4 St. Luke's Place, Cork.
Habgood, G.,	Malvern House, Reading.
Holderness, F. M.	Girls' Collegiate School, Aldershot.
Lee, E.	St. Hilda's, York Rd., Exeter.
Matthews, F. L. E.	Ladies' College, Wellington, Salop.
Newill, D.	Pembroke House, Lee, S.E.
Payne, E. V.	Oakley High School, Southsea.
Robson, H. G.	4 Jesmond Rd., Newcastle-on-Tyne.
Wadmore, H. M.	Buckingh'mHo.,RavenscourtPk.,W.
Wyld, J. L.	Private tuition.
Abdela, R.	Crofton House, Manchester.
Arnott, A.	Thé Oaks, Sandown.
Colson, F.	New College, Southampton.
Dott, R.	Ingleside, Aintree, Liverpool.
Grimshaw, M.	Enmoor Lodge Coll. S., New Leeds.
Hull, J. M. R.	Albany High School, Brighton.
Jackson, E. M.	Malvern House School, Birkdale.
Parsonage, L. E.	Malvern House School, Birkdale.
Poland, N.	20 York Villas, Brighton.
Stratford, E. M.	Irvine House, Wilson Street, Derby.
Wallace. G.	136 Brooke Road, Stoke Newington.
Webdale, E. C.	Buxton Lodge Collegiate S., Luton.
Berry, M.	Girls' High School, Nelson, Lancs.
Broad, F. G.	Hemdean House, Caversham.
Bullock, E.	Marymount, Liscard, Cheshire.
Diaper, E. M.	Private tuition.
Gunner, K. C.	St. Michael's, Goring-on-Thames.
Howard, E. A.	Twyford College, South Hampstead.
Knight, E. H.	Ashleigh House, Tetbury.
Moore, M. I.	38 St. Peter's Road, South Croydon.
Roberts, E. L.	Buckingh'mHo.,RavenscourtPk.,W.
Sisterson, G.	The High Shield, Hexham.
Taylor, E.	49 North Street, Sudbury, Suffolk.
Thorn, E. M.	Cashiobury House, Southend.
Amiss, D.	High School, Bromyard, Worcester.
Barber, M. A.	Purcell House, Scarborough.
Bond, C. W.	Arundel House, Scarborough.
Bray, G. M.	Wellington College, Hastings.
Chapman, A. E. M.	Stoneyhurst, Buxton.
Derry, W.	Headland College, Plymouth.
Dunwoody, R.	Avonbank House School, Bath.
Ebbetts, A. A.	William Street S., West Kensington.
Green, M.	Private tuition.
Mulcahy, M. L.	11 Christian Street, Workington.
Paulden, F. E.	Rhianva College, Hunstanton.
Tonks, M. N.	Oxford Lodge, Wolverhampton.
Wood, A. L.	Mount Pleasant S., Barnsley, Yorks.
Le Boutillier, E. M.	Royal Bay Terrace S., Gorey, Jersey.
Marsh, E. M.	LindenHouseS.,MarketHarborough.
Moon, E. A.	Milton Mount College, Gravesend.
Parsons, E. C.	West Central CollegiateSchool,W.C.
Tomkins, M. A.	Westbourne House, Cowes.
Williams, M.	Camden School for Girls, N.W.

SECOND CLASS.—3RD DIVISION.

Adey, B. M.	College, House, Newbury.
Bellamy, I. J.	Russell House S., Wandsworth Com.
Child, H.	Ashburne House, Chepstow.
Cholerton, E. E.	Irvine House, Wilson St. Derby.
Dobson, M.	Girls' Grammar School, Halifax.
Doddemeade, F.	The Limes, Buckhurst Hill.
Harris, F. M.	Elphinstone College, Putney.
Hindle, A. A.	Glengarry, Birkdale, Southport.
Jones, L. M.	Osborne House School, Stechford.
Lake, E. K.	Headlaud College, Plymouth.
Light, K. M.	Camden School for Girls, N.W.
Sutton, E.	Avondale,Croxteth Road,Liverpool.
Thompson, N.	Henry Street School, Bolton.
Williams, L. K. M.	Longford Girls' School, Bristol.
Atkins, A. M. *d.*	Private tuition.
Donovan, F.	ConventofLoreto,Hulme,M'chester.
Farrant, A. M.	St. Winifred's, Southampton.
Fearon, N. E.	Westbourne House, Cowes.
Huddy, F.	Great House School, Cowbridge.
Jones, G. H.	High School, Reading.
Payne, L. M.	Brightbe College, Southend.
Pearson, M. F.	38,St. Peter's Road, South Croydon.
Watmough, J. D.	Private tuition.
Bennett, A. E. V.	Camden School for Girls, N.W.
Brooke, E. M.	Ipswich Street S., Stowmarket.
Brown, E. J. A.	Trinity House, Trinity Square, S.E.
Crew, J. S.	Stainsbridge House, Malmesbury.
Garlick, C. M.A.	Dagmar House School, Hatfield.
Gerrish, E. B.	West Holme, Clacton-on-Sea.
Godbold, M.	Cornwallis High School, Hastings.
Hennell, K. R.	Ashbourne House, Colchester.
Heron, K. N.	Twyford College, South Hampstead.
Lawson, E. A.	Private tuition.
Lister, B. M.	5 Albion Terrace, Grantham.
Martin, A. L.	Castle House, Great Malvern.
Mayer, B. L.	Private tuition.
Owen, H. J.	Girls' Grammar School, Rochester.
[1]Patching, L.	Nevill College, Tunbridge Wells.
Peacock, E.	Twyford College, South Hampstead.
Corbishley, M.	Severn Bank, Shrewsbury.
Herz, H. L.	Cleveland Coll., S. Hackney, N.E.
Hutchinson, G. M.	Glencairn, Peterborough.
Llewellyn, A.	Summerfld.Hl.,Maesycwmmer,C'df.
Rackstraw, N.	Private tuition.
Smyth, A. B.	Reginald Terrace School, Leeds.
Walton, E. M.	Haddo&WestwoodColl.S.,Scarboro.
Worfolk, H. E.	Holme Lea, Ilkley.
Fairy, V.	Norbury, Hartfield Sq., Eastbourne.
Hudson, E. C.	Cashiobury House, Southend.
Jones, G. K.	Plas Madoc, Ruabon.
Power, G. M.	Oakwood House, Brighton.
Shattock, E. J.	Hemdean House, Caversham.
Turvey, F.	Camden School for Girls, N.W.
Warren, E.	The Park School, Yeovil.
Whicher, V.	136 Brooke Rd., Stoke Newington.
Williams, E. B.	St.Margaret's,RichmondRd.,Cardiff
Caudwell, B.	Norbury, Harttield Sq., Eastbourne.
Cheverton, M. K.	St. Winifred's, Southampton.
Cudlipp, J. O.	St. Winifred's, Southampton.
Groves, A. M.	The Museum, Brixton Hill.
Leask, E. A.	54 Sutherland Avenue, W.
McAuley, M.	Adelphi House, Salford.
Neal, C.	Eton House School, Sheffield.
Power, M. L.	Girls' Grammar School, Halifax.
Tayler, E. H.	Cleveland Coll., S. Hackney, N.E.
Thursfield, C. M.	Oak Villa School, Wrexham.
Bailey, E. M. A.	Private tuition.
Buswell, A.	Down End, The Avenue, Clifton.
Crowther, F.	London Coll.Gram. S.,HollowayRd.
Frank, M. B.	St. Edmondsbury, Bexhill.
Izzett, M. E.	Prospect House School, Stechford.
Linton, M. A.	West Central CollegiateSchool,W.C.
Meays, B.	8 Priory Terrace, Sharrow, Sheffield.
Pinniger, A. M. L.	Southside House, Weston-s.-Mare.
Purkis, H. K.	Stainsbridge House, Malmesbury.

GIRLS, SECOND CLASS—*Continued.*

Taylor, H. M.	Oakwood House, Brighton.
Tomkins, M.	The Hollies, Edgbaston.
Waister, M.	Wolverhampton Ladies' College.
Whiteley, E. H.	Glan Dyfi House, Wisbech.
Abbott, A.	Hemdean House, Caversham.
Bristow, F.	Ellesmere House, Whitchurch.
Fry, E. M.	Lithend Ladies'S., Bishop's Waltham
George, B. A.	St. Hilda's, York Road, Exeter.
Sellers, G. M.	Langley House, Ashbourne.
Stone, L. E.	Brook Green College, W.
Wise, E. B.	Portswood College, Southampton.
Bayley, M. A.	Girton House, West Brighton.
Bedford, E. M.	Eastville, Moor Oaks, Sheffield.
Connau, E.	Vale Towers Hall, Tunbridge Wells.
Dodsworth, H.	St. David's School, Carnarvon.
Genge-Andrews, L.	Yeovil High School for Girls.
Munn, M. G.	St. Winifred's, Southampton.
Nicholson, F. I.	Gresham College, Brixton Hill.
Tingle, L.	West Ham High School, E.
Walters, L. S.	West Green College, S. Tottenham.
Mason, E. M. C.	The Crescent School, Norwich.
Pattinson, A. I.	Brunswick House, Carlisle.
Pearcy, D. E.	Newlands, Stoke Newington, N.
Powell, M.	Convent High S., Loughborough.
Smith, S. S.	Colville House, The Sands, Swindon
Wraight, G.	Vale Towers Hall, Tunbridge Wells.
Yeates, M. A	Saltram Crescent S., W. Kilburn.
Armstrong, A.	Ashley House School, Worksop.
de Jersey, B. S.	Hurst Dene, Marina, Bexhill.
Evans, F. D.	Clare House, Northampton.
Nicholson, E.	Chestnut House, Lincoln.
Rawnsley, E. P.	Girls' Grammar School, Halifax.
Rye, A.	High School, The Sands, Swindon.
Smith, E. M.	Private tuition.
Storer, F. I.	Ashleigh House, Tetbury.
Anderson, M. S.	Girls' County School, Welshpool.
Burnett, I. C.	Private tuition.
Dingle, E. E.	Headland College, Plymouth.
Glover, M. H.	Oakwood House, Brighton.
Hoskings, F. E.	Park House, Belmont Pk., Lee, S.E.
Nichols, A. M.	Prospect House, St. Neots, Hunts.
Ridley, E. M.	Harrow Middle School for Girls.
Scott, E. M.	Girls' Grammar School, Rochester.
Thomas, K. A. E.	Private tuition.
Watts, M.	Leyburn House, Northallerton.
Banes, M.	Down End, The Avenue, Clifton.
Barraclough, M.	Enmoor Lodge Coll. S., New Leeds.
Cooper, K. A.	Monk Bridge School, York.
Harris, M. L.	44 Shakespeare St., Nottingham.
Jones, A. A.	Boscombe High S., Bournemouth.
Lennox, F. M.	Roan Girls' School, Greenwich.
Normanton, A. E.	Ladies' Coll., Savile Park, Halifax.
Owen, M. S.	Ely House, Wolverhampton.
Robbins, L.	Ashley House School, Worksop.
Wright, C.	Cumberl'dColl., Acock'sGrn., B'ham.
Bowler, A.	Marymount, Liscard, Cheshire.
Evans, A. E.	Brentwood, Southport.
Harper, E. G.	The Hill House, Framlingham.
Humphrey, S. V.	William Gibbs' School, Faversham.
Lewes, M.	Private tuition.
Lewis, H. M.	Brean Down House, Burnham, Som.
Liddiard R. K.	Huntcliffe House, Harrogate.
Quipp, O. K.	Chestnut House, Lincoln.
Reed, V. M.	Oakwood House, Brighton.
Stedman, A.	Palatine Coll., Camberwell Gr., S.E.
Ward, A. M.	The Cowley Schools, St. Helens.
Willson, L. C.	Roan Girls' School, Greenwich.
Bird, P. K.	Brunswick House, Carlisle.
Clutterbuck, H. M.	Private tuition.
de Cobain, L. A. F.	3 Argyle Road, Tunbridge Wells.
Hill, A.	4 St. Luke's Place, Cork.
Jones, M. C.	Devonshire House S., Wincanton.
Marples, M. E.	High S., Staveley, Chesterfield.
Michelmore, H. R.	Glenholme School, Paignton.
Pargeter, E. E.	Ladies' College, Wellington, Salop.
Perkins, L. C.	Mecklenburg House, Putney Hill.
Burchell, E. M.	Rosendale, Littlehampton.
Chittell, F. H.	Margate Ladies' College.
Hussey, F. I.	High School, The Sands, Swindon.
Jones, M. J.	Boscombe High S., Bournemouth.
Kerton, C. A.	St. Winifred's, Southampton.
Pinching, O. E.	Coll. S., Stanford-le-Hope, Essex.
Sewell, M. E.	Colville House, The Sands, Swindon.
Andrew, J. H.	Milton Mount College, Gravesend.
Beere, W. D. M.	St. Winifred's, Southampton.
Darley, G. E.	Collingwood College, Lee, S.E.
Hall, C. A.	Wolverhampton Ladies' College.
Meadway, A. M.	St. Hilda's, York Road, Exeter.
Moorhouse, E.	Preston High School.
Oliphant, T. A.	Private tuition.
Pagnam, E.	Northlands, Blackpool.
Sharp, W. B.	St. Winifred's, Southampton.
Smyth, A. E.	Private tuition.
Bond, A. D.	High School, Bridgwater.
[1]Broadbent, L. M.	Woodhouse Hall Seminary, Leeds.
Hanna, A. K.	121 George Street, Limerick.
Henry, V. M.	Benhilton College, Sutton, Surrey.
Hudson, G.	Hyde House S., Tollington Park, N.
Preston, M. H.	Carleton College, Tufnell Park, N.
Ryan, A.	Alderhurst, Sale, Cheshire.
Alston, M. A. A.	Private tuition.
Dennison, M.	Brookville, Filey.
Glass, E. S.	Holywell College, Weston-s.-Mare.
Mercier, S. E. L.	High School, Tewkesbury.
Northam, R. B.	Milton High School, Cranbrook.
Shenton, F.	High School, St. Anne's-on-Sea.
Watson, E.	Huntcliffe House, Harrogate.
Cowley, L. B.	Albany High School, Brighton.
Hawker, C. A.	Carleton College, Tufnell Park, N.
Heasley, E. M.	26 Trinity Rd., Bootle, Liverpool.
Heughan, E. S.	Henry Street School, Bolton.
Hindle, N. L.	Huntcliffe House, Harrogate.
Rendell, M.	High School, Reading.
Roberts, A. M.	Prospect House, St. Neot's, Hunts.
Sayer, E. M.	Kenilworth College, Hastings.
Trickett, J.	High School, St. Anne's-on-Sea.
Willoughby-Brown, W. F.	Private tuition.
Bowen, E. F.	Ladies' College, Wellington, Salop.
Carey, E. S.	Trinity House, Trinity Square, S.E.
Davies, E. A.	Girls' County School, Welshpool.
Death, S. G.	Chestnut House, Lincoln.
Houghton, K. D.	Queen's Coll., Haverstock H., N.W.
Lisbona, L.	Portland St. High S., Manchester.
Roberts, E. M.	High School, The Sands, Swindon.
Robinson, M.	Ousegate School, Selby.
Sanderson, M. F.	Kenilworth College, Hastings.
Adams, M. B.	Castledine House, Anerley Pk., S.E.
Eva, H.	Parc Bracket Coll. S., Cramborne.
Goddard, M. E.	Clough School, Reigate.
Myler, A.	Marymount, Liscard, Cheshire.
Powell, R.	Martigny House, Melksham, Wilts.
Bevan, R. L.	High S., Christchurch Rd., Folkestone
Cockrill, M. M.	Llandaff House School, Norwich.
Gravely, L. J.	28 Hampton Rd., Redland, Bristol.
Lakeman, E. M.	Milton Mount College, Gravesend.
Holman, K.	Balham School, S.W.
Horsey, E. M.	Dagmar House School, Hatfield.
Inkpen, A. L.	Cornwallis High School, Hastings.
Ker, E.	Roccabruna, Bexhill.
Lofthouse, E.	Higher Grade School, Selby.
Perry, E. M.	Buckingham H., Ravenscourt Pk., W.
Burke, T. M.	Brook Green College, W.
Dawson, L.	Stoke School for Girls, Devonport.
Dubbin, A.	Stoke School for Girls, Devonport.
Fellowes, F. R.	Yeovil High School for Girls.
Feltham, E. L.	Devonshire House S., Wincanton.
Henson, M. K.	Ebrington House, Exeter.
Kinsey, F. M.	Granville School, Southampton.
Reid, D. B.	South Hornsey High School, N.
Avis, A. F.	Clare House, Northampton.
Barnes, E.	Stoke School for Girls, Devonport.
Crang, F. M.	The Park School, Yeovil.
Kochs, L. H.	St. Margaret's, Richmond Rd., Cardiff
Price, W. M.	Stoneleigh House, Nailsworth, Glos.
Saunderson, F. J.	Glanavon School, Llandudno.
Webb, G.	Roccabruna, Bexhill.
Wintle, B. C.	College House, Newbury.
Armstrong, E.	Prospect House, St. Neot's, Hunts.
Brown, M. M.	Llandaff House School, Norwich.
Cutts, M. A.	Monk Bridge School, York.
Green, E. E.	Clyde Villa, West Hampstead, N.W.
Hawkes, T. F.	Wootton Mount S., Bournemouth.
Le Blond, E.	Brunswick School, Hampstead.
Midgley, A.	Goole Grammar School.
Powell, E. M.	Moseley Ladies' College.
Spooner, M.	Mayfield College, Marlborough.
Cumming, C.	Wallasey Girls' Coll. S., Liscard.
Crofts, L. E.	The Woodroughs, Moseley, B'ham.
Denchfield, M.	6 Chandos Road, Buckingham.
Fowler, F. S.	Summerland College, Honiton.
Fownes, K.	Kenilworth College, Hastings.
Groome, G.	Clyde House S., Tufnell Pk. Rd., N.
Taylor, I.	4 Jesmond Rd., Newcastle-on-Tyne.
White, D.	Martigny House, Melksham, Wilts.
Helmer, D.	St. Hilda's, York Road, Exeter.
Nelson, M. E.	Penketh Friends' S., Warrington.
Walton, E. K.	Colne Road Middle Class S., Burnley.
Hornidge, E.	Hyde House S., Tollington Park.
Moore, H. F.	High School, The Sands, Swindon.
Pinchard, L.	Ashleigh College, Mortlake.
Smith, B. E.	Rookwood Girls' S., Great Malvern.
Wallis, E. M. M.	Sultan House School, Margate.

THIRD CLASS.—1ST DIVISION.

[2]Wolseley, E. H. *f.*	Larchcroft, Redhill, Surrey.
[2]Bryant, V. I.	North Bristol School for Girls.
[2]Redcliffe, A.	College High School, Huddersfield.
[2]Parkinson, K. H.	Lynton House School, Margate.
[1]Syer, M.	Leith House, Acton, W.
Roper, H. C.	Arundel House, Scarborough.
[2]Sowerby, M. G.	Kemmendine House, Shrewsbury.
Orchard, E. C.	Polytechnic School for Girls, W.
Kelland, A.	Southernhay School, Exeter.
[1]Freestone, M. F.	Lyndhurst College, Leicester.
[2]Ross, E. C.	Private tuition.
Wild, E. H.	Alderhurst, Sale, Cheshire.
[2]Jarratt, E.	Ashbourne House, Colchester.
[1]Gilly, M. A. *f.*	Alexandra College, W. Hastings.
Dodd, L, A.	Huntingdon Street S., Nottingham.
[2]Fisher, F. R.	Vercecroft, Devizes.
[2]Oldrey, M.	Howard College, Bedford.
[2]Symonds, I. M.	Collegiate School, Brentford.
[2]Thompson, E. A.	Camden School for Girls, N.W.
Coates, H.	St. John's C., Laitwood Rd., Balham.
Highton, A.	Scarisbrick House S., Southport.
Hope, M. F.	Private tuition.
Millard, E. A. *dom.*	Buxton Lodge Collegiate S., Luton.
Seaman, A. E. *mu.*	Ladies' School, Croft, Darlington.
[2]Tolson, J.	Clyde Villa, West Hampstead.
Davis, E.	Belmont, Ferndale Road, Clapham.
[2]Dixon, B. E.	20 York Villas, Brighton.
[2]Golds. E. *dom.*	Ivy House Coll. S., Crouch Hill, N.
[2]Taylor, V. S. M. H.	High School, Sydney Place, Cork.
Tinniswood, R. E.	Brunswick House, Carlisle.
[2]Binning, N.	Beech House School, Eccles.
Clayton, G.	St. Bernard's, Southsea.
Moriarty, K. *mu.*	York Crescent S., Clifton, Bristol.
Boyd, M. A.	Private tuition.
[2]Llewellin, E. L.	Brenholly, Clytha Pk., Newport, Mon
Jones, M. S.	Milford House S., Newport, Mon.
Vincent, H. M.	Headland College, Plymouth.
Hunt, D. L.	The Lymes, Sudbury, Suffolk.
Martin. F. M.	Ladies' College, Wellington, Salop.
Rimington, K. M.	Lindum House, Louth, Lincs.
Thorman, E. E.	West Ham High School, E.
Walker, M. E.	St. John's, South View, Eastbourne.
Beaumont, M. C.	Anglo-French Ladies' Coll., Bristol.
Foster, C. *mu.*	Stanley House S., Stockton-on-Tees.
Macdonald, B.	Convent of Loreto, Hulme, M'chester.
Selby, A. K.	Huntingdon St. S., Nottingham.
Shaw, W.	Queen's Walk School, Nottingham.
Wheeler, G.	High School, Tewkesbury.
Brown, M. A.	Reigate Villa, Sutton, Surrey.
Dent, H. G.	Polytechnic School for Girls, W.
Goddard, M. J.	College House, Hungerford.
[2]Skeet, L. M.	26 Ashley Road, Hornsey Rise, N.
[2]Booth, E. S. M.	West Bank, Durham Rd., Sheffield.
Darley, C. A.	York Crescent S., Clifton, Bristol.
Bloomer, M. A.	Harborne Ladies' Coll., Birmingham.
[2]Grant, W. M.	Ellerker College, Richmond Hill.
Lowe, S. I.	Higher Grade School, Southport.
Porter, E. G. *d.*	Tufnell Park College, N.
Rabbidge, A. E.	Waldron House, Havant.
Robinson, M. J.	Collegiate School, Bishop Auckland.
Smith, A. M.	Belmont House, Ossett, Wakefield.
Thornton, M. W.	Higher Grade School, Southport.
[2]Hungerford, A.	High School, Sydney Place, Cork.
Keeling, M. E.	West Central Collegiate S., W.C.
White L.	Salisbury House, Littlehampton.
Wragg, M. H.	Huntingdon St. School, Nottingham.
[2]Hull, A. T. B.	Clare House, Northampton.
Martin, H. M.	Colston's Girls' Day School, Bristol.
Sheppard, E. T.	Ellerker College, Richmond Hill.
[2]Taylor, E. M.	Girls' Coll. & High S., Southampton.
Wallace, M.	The Cowley Schools, St. Helen's.
White, M.	The Cowley Schools, St. Helen's.
[2]Barling, N. C.	Ellesmere House, Whitchurch.
Enderby, M.	Huntingdon St. School, Nottingham.
[2]Hodgson, M. E.	44 Shakespeare Street, Nottingham.
Hudson, B. D.	Clyde House S., Tufnell Pk. Rd., N.
Loram, A.	Southernhay School, Exeter.
Crawford, G. B.	Brunswick House, Carlisle.
Boyd, C. I.	Private tuition.
Duxfield, S. E.	Higher Grade School, Southport.
[1]Good, R. M.	Westcombe House, Brighton.
[2]Hobbs, L.	Vernon House, Pembridge Villas, W.
Mathews, F. M. A.	Burlington Middle Class School, W.
Moran, C.	Adelphi House, Salford.
[2]Richards, E. W.	9 Kingsgate Street, Winchester.
Bartlett, M.	Heidelberg, Ealing.
Barton, P. M.	Higher Grade School, Southport.
Beak, L.	Clare House, Northampton.
Booth, H.	Treverbyn, Hornsey Lane, N.
[2]Cleaver, G. M.	Ormeside High School, Llandudno.
[2]Curtis, D.	Chestnut House, Lincoln.
Davies, R. G.	Carfrae House, Tything, Worcester.
Hickman, A. M.	Mecklenburg House, Putney Hill.
Hooker, E. K.	Alexandra C., Shirley, Southampton.
Ivery, C. L.	Victoria House High S., Dorking.
Jones, S. E.	Queen Mary's High School, Walsall.
Kitching, G.	Collegiate School, Bishop Auckland.
Marples, W. E.	Treverbyn, Hornsey Lane, N.
O'Neill, J.	Adelphi House, Salford.
[2]Roxburgh, M. E.	Clyde Villa, West Hampstead.
[2]Wallis, M.	College House, Newbury.
Warmington, G.	Collingwood College, Lee, S.E.
Webb, G. C.	Ladies' College, Wellington, Salop.
[2]Welch, M.	St. Olave's School, Taunton.
Barker, M.	Haddo & Westwood Coll. S., Scarboro.
Boote, E.	St. George's House, Doncaster.
Flitton, E. M.	Grove House, Baldock, Herts.
[2]Forster, M. E.	Victory Terrace, Coatham, Redcar.
[2]Gant, L. J.	Collingwood College, Lee, S.E.
Jesty, S.	Arundell House, Tisbury, Wilts.
Limpricht, C.	St. Hilda's College, Hexham.
MacDermott, M.	Convent of Loreto, Hulme, M'chester.
Parr, D. M.	Camden School for Girls, N.W.
Potter, R. E.	Langley House, Ashbourne.
Pugsley, R. E.	14 Elizabeth Place, Jersey.
Simpson, D.	York Crescent S., Clifton, Bristol.
Viggers, M. C.	Fairview, Ashford, Kent.
[2]Woodbridge, N.	3 Argyle Road, Tunbridge Wells.
[2]Evans, H. G.	The High Grove, Stoke-on-Trent.
Fielding, G.	High School, St. Anne's-on-Sea.
Fisk, K.	Avondale, Croxteth Rd., Liverpool.
Menzies, A. M.	Camden School for Girls, N.W.
Moore, N. L.	Polytechnic School for Girls, W.
Myers, E.	Belmont House, Ossett, Wakefield.
[2]Patchett, E.	Brentwood, Southport.
Bennett, G. E.	Carfrae House, Tything, Worcester.
Billing, M.	Warwick House, Poulton-le-Fylde.
Brumbridge, O. V.	Polytechnic School for Girls, W.
Clarke, M. R.	Clevedon School, Northampton.
Creaser, H.	Cambridge House School, York.
Felton, M. M.	Lansdowne House S., Llandudno.
Griffiths, L. M.	Glengarry, Birkdale, Southport.
Noble, S.	County School, Bethesda, N. Wales.
Pether, E. A.	Waldron House, Havant.
Pinoli, A. L.	Polytechnic School for Girls, W.
[2]Reynolds, C. E.	21 Minster Rd., W. Hampstead, N.W.
Shentall, M.	High School, Herne Bay.
Sheward, E. M.	High School, Tewkesbury.
Whiteley, F. E.	Eton House School, Sheffield.

GIRLS, THIRD CLASS—*Continued.*

Ashton, R.	Greenhill House, Stourbridge.
Bones, A. M.	Winsley, St. Mildred's Rd., Lee, S.E.
Brooks, M.	Ellesmere Rd.S.,Eccles,Manchester.
[2]Corke, I. M.	Oxford House School, St. Leonards.
[2]Garthwaite, E. M.	Grosvenor College, Bath.
[2]Hepburn, C. T.	Private tuition.
Hobbs, G. L.	Buxton Lodge Collegiate S., Luton.
[2]Keene, E.	Leaholme College, Cirencester.
Kent, M. M.	Edgehill House, Bodmin.
Kermode, M. E.	Private tuition.
Luffmann, G. M.	Yeovil High School for Girls.
Nicolson, M.	York Crescent S., Clifton, Bristol.
Schuster, M. M.	West Hill House, Eastbourne.
Smith, E. M.	People's College, Nottingham.
Stampe, M. E.	RussellHouseSchool,GreatGrimsby.
Stone, M.	Victoria House High S., Dorking.
Williams, M. W.	Arlington House S., Newport, Mon.
Barltrop, A. M.	Roden House, Ongar.
Belsham, E. A.	Sussex House,Willesden Lane, N.W.
Carter, E. M.	Lindum House, Louth, Lincoln.
Cross, E. G.	Alwyne College, Canonbury, N.
Guest, E.	High School, St. Anne's-on-Sea.
Halton, A.	Convent of Loreto,Hulme,M'chester
Hitchin, D. E.	Ladies' College, Wellington, Salop.
Hundley, E. M.	Stella House, Cathcart Hill, N.
[2]Nathanson, J.	Private tuition.
[2]Nesham, B. C.	Kenilworth College, Hastings.
[2]Oppenheim, E.	Camden School for Girls, N.W.
Theobald, A. G.	Wandsworth High School for Girls.
Wenyon, F. L.	Oak Villa School, Wrexham.
Ashby, L.	Clarendon House School, Kineton.
Baynes, A.	Fulford Field House, York.
Craig, M. F.	Stanley House S.,Stockton-on-Tees.
Cross, D. A.	Private tuition.
Fox, G. F.	The Grange School, Marple.
Greenwood, E. N.	Camden School for Girls, N.W.
Jenkins, M.	Dunnarklyn, Weston-super-Mare.
[2]Kent, E.	136 Brooke Road, Stoke Newington.
Nielsen, K. D.	Fern Bank, Wandsworth Common.
Pepper, E. M.	Stanley House S., Stockton-on-Tees.
[2]Porcher, G.	St. Maur College, Chepstow.
Riches, C. M.	Lonsdale House School, Norwich.
[2]Suggett, A. M.	Everard House School,King's Lynn.
Alston, D.	Down End, The Avenue, Clifton.
Bowden, F. H.	HaldonView,St.David's Hill,Exeter.
Carter, E. J.	Grove House, Braintree.
Evans, C.	Queen's Walk School, Nottingham.
Fussell, I.	Huntingdon Street S., Nottingham.
Garwood, M.	Huntingdon Street S., Nottingham.
[2]Hambling, C. L.	Babington House, Eltham, Kent.
Lavington, P.	Mayfield College, Marlborough.
Molyneux, G. M.	Malvern House School, Birkdale.
Parnell, K.	Castle Hall School, Northampton.
Sams, F. H.	Camden School for Girls, N.W.
Shorman, B. G.	Tyrwhitt College, Brockley, S.E.
[2]Traviss, M. E. *dom.*	People's College, Harlesden.
[2]Baker, W. M.	Private tuition.
[2]Barrett, J. O.	PalatineColl.,CamberwellGrove,S.E
[2]Cannon, B.	Longsight House, Southport.
Deacon, W. E.	The Hall, Montpellier, Cheltenham.
Ford, E. A.	Eton House School, Sheffield.
[2]Gilbert, F. M.	Eastville, Moor Oaks, Sheffield.
Hindsley, E. L.	Alwyne College, Canonbury, N.
Long, M. K.	Malvern House, Reading.
Maffey, M. E.	St. Winifred's, Southampton.
Nicklin, V. I.	Clyde House S., Tufnell Pk. Rd., N.
Playll, L. E.	Lindum House, Louth, Lincs.
Booth, R.	Thornton House School, Grays.
Chapman, L. M.	Trafalgar Square School, Scarboro.
Charters, A. M. J.	Brunswick House, Carlisle.
Condrup, F. C.	Ivy House Coll. S., Crouch Hill, N.
Dupuis, F. D.	Brean Down House, Burnham, Som.
[2]Heywood, E. G.	2 Oxford Park, Ilfracombe.
[2]Knight, A. E.	Trinity House, Trinity Square, S.E.
Probyn, A. G.	St. Leonard's Coll., Amhurst Pk. N.
Provis, E.	Goodrich Rd. S., East Dulwich, S.E.
Verity-Young,B.E.M.	Westbourne High S., Bournem'th.
[2]Warden, E. A.	Wynaud House, Bowes Park, N.
[2]Whiting, C. M.	Girton House, West Brighton.
Adams, E. C.	Fern Bank,Dartmouth Pk.Rd.,N.W.
Allsop, L. M.	Hollygirt, Nottingham.
Atkinson, M. W.	Richmond Passage, West Cork.
Bark, E. E.	Eton House School, Sheffield.
Bigwood, E, S.	Stainsbridge House, Malmesbury.
Butler, K. D.	Norbury, Hartfield Sq.,Eastbourne.
Cooke, H.	High School, St. Anne's-on-Sea.
Dean, W.	MilfordHouseSchool,Newport,Mon.
[2]Fleming, R. E.	Howard College, Bedford.
[2]Forbes, A. F.	High School, Sydney Place, Cork.
Gladding, E. M.	Alexandra Coll., Shirley,S'hampton.
Goodsell, E. E.	Queen's Walk School, Nottingham.
Gyles, M. A.	Colston's Girl's Day School, Bristol.
[2]Holmes, G. E.	Southolme High S., Whalley Range.
[2]Jackson, I. L.	Glenavon School, Llandudno.
Lay, A. L.	Summerbrook, Reading.
Myrtle, A. K.	Stoneyhurst, Buxton.
Reader, M. E.	Auckland Ho.,The Pk.,Nottingham.
Rivers, M. E.	Rosebank School, Alton, Hants.
Sinclair-Thomson,J.S.	Private tuition.
Stockwell, M.	Avenue House School, Lewisham.
Trenor, T.	Covent of Loreto, Hulme,M'chester.
Williams, E.	County S., Bethesda, North Wales.
Baker, C. H.	44 Shakespeare Street, Nottingham.
[2]Beech, I.	Hampden Lodge, Moseley, B'ham.
[2]Bowles, E. A.	Putney HighS.,ChelvertonRd.,S.W.
Bunbury, M. S.	West Hill House, Eastbourne.
Chapman, A. M.	Private tuition.
[2]Collins, D. S.	Brook Green College, W.
Cox, L. E.	St. Winifred's, Southampton.
Dixon, P. M.	2 Duke Street, Bath.
[2]Goldsworthy,J.M.	MilfordHouse School,Newport,Mon.
Haynes, M. E.	College House, Hungerford.
Howlett, M. N.	Kendrick Girls' School, Reading.
Hunton, E. L.	E. Devon Co. S., Sampford Peverell.
[2]Kerr, M.	High School, Herne Bay.
[2]Knight, E.	Ashleigh House, Tetbury.
Pardoe, L. M. S.	The Hawthorns,Ealing Common, W.
[2]Sargeant, A. N.	Cleveland College, S. Hackney,N.E.
Shoosmith, D.	Stouyhurst, Buxton.
Sudbury, E.	Prospect House, St. Neot's, Hunts.
Tinker, M.	Woodland House, Thirsk.
Tweddell, E. T.	Covenham, Southport.
[2]White, C. M.	Mecklenburg House, Putney Hill.
Wilkins, D.	18 Charnwood Street, Derby.
Adams, M.	Totnes Girls' School, Devon.
Aust, S. E.	Warbreck Coll., Aintree, Liverpool.
Baldwin, M. A.	Queen's Walk School, Nottingham.
Budgen, H.	St. James' Ladies' School, Jersey.
Cooley, F. J. B.	Polytechnic School for Girls, W.
Dain, E.	Allerton College, Sutton Coldfield.
Farr, M. L.	Abbeyfield Mount High S.,Sheffield.
Glover, G.	Romford House School, Stratford.
Greenhous, M.	Ladies' College, Wellington, Salop.
Greenhous, M. F.	Ladies' College, Wellington, Salop.
Harley, M. I.	4 St. Luke's Place, Cork.
Hawke, M.	21Home Pk.Villas,Stoke,Devonport.
Hepburn, A. F.	Private tuition.
Hick, A. K.	Holloway College, N.
Hitchin, A. A.	Ladies' College, Wellington, Salop.
King, E. B.	Vale View House, Devizes.
[2]Leake, E. W.	Meeklenburg House, Putney Hill.
Lewis, E. K.	Holmden College, Battenhale,Worc.
Mason, G. H.	West Central Collegiate School, W.C.
Parish, E. A.	Girls' Grammar School, Worcester.
Pearse, M. E.	High School, Tewkesbury.
Stevenson, L. A.	Huntingdon Street S., Nottingham
Sturgis, M. C.	Kemmendine House, Shrewsbury.
Whale, L. U.	Park School, Higher Broughton.
Arnold, A.	Polytechnic School for Girls, W.
[2]Ashby, M. R.	Larchcroft, Redhill, Surrey.
Barker, L.	Haddo& WestwoodColl.S.,Scarboro.
Bulley, E. M.	High School, Newton Abbot.
Bywaters, M. C.	Polytechnic School for Girls, W.
Constable, A. E.	Towcester School.
[2]Gilburt, C. E.	PutneyHigh S.,ChelvertonRd.,S.W.
[2]Heppell, J. I.	Lanx House S., Corbridge-on-Tyne.
Hill, L.	Queen Mary's High School, Walsall.
Holden, B.	High School, St. Anne's-on-Sea.
Kirkpatrick, M. L.	The Old Grange School, Hampton.
Lunn, A. G.	Park School, Higher Broughton.
[2]Milner, E. W.	Private tuition.
Morgan, F. E.	174 Church St., Stoke Newington,N.
Naylor, M.	The Cowley Schools, St. Helen's.
[2]Nicholson, M. E.	Chestnut House, Lincoln.
[2]Pimm, B. M. M. H.	Ingleside Collegiate S., Exmouth.
Stapleton, W. H.	Moseley Ladies' College.
Tidy, E.	Allerton College, Sutton Coldfield.
Baker, E. M.	Warwick House S., Littlehampton.
[2]Bromley, C. M.	High School, The Sands, Swindon.
[2]Brumbridge, A. D.	Polytechnic School for Girls, W.
Dawson, A.	Middle Class S., Vernon Rd., Leeds.
Eaton, G. A.	Ladies' Coll., Wellington, Salop.
Fenn, V. A.	Bardon House, High Wycombe.
Fenton, E.	Higher Grade School, Southport.
[2]Geeson, A. H.	Granville School, Midhurst.
Hamblen, M. L.	Reckleford Cross School, Yeovil.
Harwar, B. C.	Lynton House School, Margate.
Herring, E. L.	West Ham High School, E.
Jevers, H.	Brentwood, Southport.
Jewhurst, F.	Lynton House School, Margate.
Julian, G. A.	4 St. Luke's Place, Cork.
Milton, M. E. C.	St. Michael's Avenue S.,N'hampton.
Montgomery, F.	Girls' Grammar School, Halifax.
O'Brien, M. C.	Convent High S., Loughborough.
Rackstraw, N.	Private tuition.
Stiff, M.	Marlowe's Coll., Hemel Hempstead.
Stilton, M. E.	Chester Street School, Wrexham.
Tyrwhitt, D. M. E.	Private tuition.
[2]Vince, I. E.	Osborne House School, Stechford.
Wates, E. A.	Lynton House School, Margate.
Whittaker, M. L.	Ladies' College, Wellington, Salop.
Wills, M. E.	3 Hundiscombe Place, Plymouth.
Ashwin, M. E.	High School, Tewkesbury.
[2]Bateman, E. M.	Sultan House School, Margate.
Bones, E. M.	Winsley, St. Mildred's Rd.,Lee, S.E.
Bowles, F. E.	29 South Terrace, Cork.
Bray, K. M. L.	Putney High S.,ChelvertonRd.,S.W.
[2]Byrne, F. E.	Camden School for Girls, N.W.
Cocks, E. A.	Grove House, Braintree.
[2]Cooper, E. M.	Collegiate School, Brentford.
Gould, M.	College House, Newbury.
Hall, A.	Langley House, Ashbourne.
Hemus, E.	Woodville, Pershore, Worcester.
Jesse, M.	Balham School, S.W.
[2]Littlejohn, G. E.	Portswood High S., Southampton.
[2]Methven, V. A.	Woolston Ladies' Coll., S'hampton.
Millington, D.	Woodville, Pershore, Worcester.
Monk, N.	Collegiate School, Bishop Auckland.
Nicholls, M. F.	Polytechnic School for Girls, W.
Pool, F. M.	Grammar School, Hayle, Cornwall.
[2]Richardson, M.	Emwell House School, Warminster.
Sandberg, P. V. M.	Burlington Middle Class School, W.
[2]Shewen, J. M.	Devonshire House S., Wincanton.
Skeen, G. C. B.	Prospect House, St. Neot's, Hunts.
Smith, A. A.	Bedford Hill College, Balham, S.W.
Stark, H. C.	Westonmere, Newland, Lincoln.
[2]Stevens, J.	West Central Collegiate School, W.C.
Stride, L. E.	Clarendon College, Clifton, Bristol.
Vincent, E. A.	DoreckColl.,KensingtonGardens,W.
Wood, M.A.	Camden School for Girls, N.W.
Woodifield, K.	Camden School for Girls, N.W.
Alderwick, E. M.	Woodland House, Thirsk.
Arkell, M. E.	The Hall, Montpellier, Cheltenham.
[2]Atkin, M.	26 Ashley Road, Hornsey Rise, N.
Ball, F.	Clevedon School, Northampton.
Brumwell, M. M.	St. Anne's College,St.Anne's-on-Sea.
[2]Cust, A. F.	Wharncliffe House S.,Sandown,I.W.
[2]Francis, E.	136 Brooke Road, Stoke Newington.
Golding, E. S.	Bishopston Girls' High S., Bristol.
[2]Grey, L. W.	Clyde H.,Central Hill,Up.Norwood.
Hammersley, E.	Harborne Ladies'Coll.,Birmingham.
Hayward, M. H.	Private tuition.
[2]Iorns, I. H.	Avon Ville, Altrincham.
Neal, M. B.	Huntingdon St.School,Nottingham.
Ryalls, R. S. E.	Queen's Coll.,Haverstock Hill,N.W.
Scholefield, M. E.	Buxton Lodge Collegiate S., Luton.
Steddy, I.	William Gibbs' School, Faversham.
Thomas, M. M.	St.Margaret's,Richmond Rd.,Cardiff
Townshend, K. M.	The Pines, Folkestone.
Wallis, E. J.	College House, Newbury.
[2]White, A. M.	Private tuition.
[2]Bird, D.	Dresden House, Evesham.
[2]Bond, E. W.	High School, Bridgwater.
Bromhead, A. E.	Huntingdon St.School,Nottingham.
Bullock, D. K.	BrooklynH.,Wellington,Shropshire.
Callwell, M. E.	Highfield, Beccles.
[2]Cottage, V.	Clapton College, Upper Clapton.
Fay, M. B.	Camden School for Girls, N.W.
Flower, I.	High School, Herne Bay.
[2]Gammon, K. E.	Newlands School, Tonbridge.
Gilchrist,M.B.K.K.	ElmswoodColl.,Stretford,M'chester
Goodall, K. A.	Tentereroft School, Lincoln.
Gunn, G. M.	Stoke Newington High School, N.
Hadenfeldt, G. O.	Twyford Coll., South Hampstead.
Johnstone, W.	ConventofLoreto,Hulme,M'chester.
Jones, E.	Queen Mary's High School, Walsall.
Knight, A. F.	Towcester School.
[2]Kurtz, G. E.	Girls' High School, Chingford.
[2]Maudsley, E. C	TheCollege,WestbournePk.Villas,W.
[2]Moore, A.	Stamford Hill and Clapton High S.
Moore, E. J.	St. Leonard's Coll., Amherst Pk.,N.
Olver, J. A.	Moseley Ladies' College.
[2]Phillips, R. M.	Polytechnic School for Girls, W.
[2]Reader, L. G.	Lady Bank School, Tamworth.
Russell, M. J.	Selbourne House, Gateshead.
Simkins, H. K.	4 St. Luke's Place, Cork.
Thomas, E.	Summerfld.Hl., Maesycwmmer,C'df.
Whalley, E.	Granville House, East Hardwick.
Whittle, M.	Girton House, Yeovil.
Wootton, E. A.	Queen Mary's High School,Walsall.
[2]Abbotson, M.	The Coll., Westbourne Pk. Villas,W
[2]Bishop, G. M.	Putney High S.,ChelvertonRd.,S.W.
Blake, E. G.	St. Winifred's, Southampton.
Burnett, D. M.	Lynwood School, Trowbridge.
Bywaters, E. A.	Polytechnic School for Girls, W.
Chapman, D. F.	Private tuition.
Clarkson, K. M.	6ClaremontRd.,Bishopston,Bristol.
Cleaver, A.	Melrose House School, Kettering.
Collard, M. B.	High School, Sittingbourne.
Colleus, H. H.	Oak Villa School, Wrexham.
Colman, O. M.	Helena High School, Burgess Hill
Cunningham, W. F.	Hughenden, Bexhill.
Darbyshire, G.	Conventof Loreto,Hulme,M'chester
De Bels Adam, J.	Elphinstone College, Putney.
[2]De Tuctey, L.	Convent of Mercy, Chelsea, S.W.
Dufty, F. M.	Down End, The Avenue, Clifton.
Edwards, G. E.	West Central Collegiate School,W.C.
Fox, E. R.	Colston's Girls' Day School,Bristol.
Gibbings, F.	Camden School for Girls, N.W.
Gifford, E.	Devonshire House S., Wincanton.
[2]Gillett, M. F.	Private tuition.
Goddard, E.	136 Brooke Road, Stoke Newington.
Goldseller, L.	Higher Grade School, Southport.
Guest, E. B. M.	Greenhill House, Stourbridge.
Harrison, M. W.	Vernon House, Pembridge Villas,W.
Hill, I.	Queen Mary's High School, Walsall.
Hill, M. Mac N.	29 South Terrace, Cork.
Lear, G.	Southernhay School, Exeter.
[2]Lloyd, M. E.	Milton Mount College, Gravesend.
Owen, E.	Richmond House, BreckRd.,L'pool.
Pakeman, F. G.	Carleton College, Tufnell Park, N.
Saunders, K.	Mary St. House School, Taunton.
Wells, G. M.	Waldron House, Havant.
Wetenhall, M. G.	Polytechnic School for Girls, W.
Whitehead, E.	Ladies' College, Wellington, Salop.
Williams, B.	Hr. Grade Girls' S., Merthyr Tydfil.
[2]Woodham, M. G.	New College, Southampton.
Andrews, M. A.	Private tuition.
Ankers, E. E.	Academy, Crewe.
Branthwaite, E. F.	Royal Masonic Inst.,Battersea Rise.
[2]Brisco, M.	Calder House School, Seascale.
Chaplin, B. M.	Sussex Ho. S., Willesden Lane,N.W.
Chatburn, I.	Russell House School, Gt. Grimsby.
[2]Cresswell, N.	44 Shakespeare Street, Nottingham.
Farina, E. C.	Ladies' School, Croft, Darlington.
[2]Hargreaves, E. M.	Mount Devon School, Scarborough.
Hawkes, R.	St. Olave's School, Taunton.
Holt, M. K.	Newton House S., Tunbridge Wells.
Ingram, G. M.	Waverley College, Stroud Green, N.
Jones, F. E.	Ladies' College, Wellington, Salop.
Kerr, B.	Brunswick House, Carlisle.
[2]Lumb, S. A.	Ellesmere House, Whitchurch.
[2]Mansell, E.	Collingwood College, Lee, S.E.
Marsh, L.	Ladies' College, Wellington, Salop.
Morley, L.	St. George's House, Doncaster.
Puntis, E.	Curzon House, Portsmouth.
[2]Roebuck, C. H.	43 Westbourne Terrace, Lincoln.
Russell, E.	Polytechnic School for Girls, W.
Smith, F. P.	LyttletonArmsS.,Hagley,Worcester
Sootheran, M.	Woodland House, Thirsk.
Starkey, R. D.	Ladies' College, Wellington, Salop.
Ward, L. E.	Camden School for Girls, N.W.
Woodgate, A. B.	ClevelandColl.,SouthHackney,N.E.
Amos, M.	Clyde House S., Tufnell Pk. Rd., N.

GIRLS, THIRD CLASS—*Continued.*

Andrew, R. E. V.	33 Sion Hill, Bath.
[2]Beatty, V. C. A. V.	Linden House, Market Harborough.
Chesterman, V. G.	HaldonView, St.David's Hill, Exeter.
[2]Coade, E. M.	Seymour House, Saltash, Cornwall.
Comer, M. M.	Colston's Girls' Day School, Bristol.
Dark, G.	High School, Reading.
Diggle, A. E.	Higher Grade School, Southport.
[2]Feiron, E. K.	Intermed.S., KymberlyRd., Harrow.
Hall, E. C.	Lynton House School, Margate.
Hocking, G. W.	Polytechnic School for Girls, W.
Hodgson, M. E.	Ladies' School, Croft, Darlington
Horniblow, E. E.	Merton House, Charlbury, Oxon.
[2]Johnston, S. M.	Malvern House, Reading.
Law, M. E.	Harborne Ladies'Coll., Birmingham.
Minter, M. L.	Harrow Middle School for Girls.
Neale, B. R.	Stainsbridge House, Malmesbury.
Neale, E. H.	Kendrick Girls' School, Reading.
[2]Orme, E. E.	Hilton House School, Atherstone.
Orme, F. E.	Polytechnic School for Girls, W.
Owen, B.	Pendeen College, Mumbles.
[2]Pattison, L.	Wrexham High School for Girls.
Pescod, E.	Burlington Middle Class S., W.
Savage, F. M.	Olney House, Hastings.
Sell, E. F. H.	Polytechnic School for Girls, W.
Snowman, M.	Private tuition.
Toseland, A. E.	Broad Green S. Wellingborough.
Varley, G.	Hollygirt, Nottingham.
Wade, M. E.	Private tuition.
Whalley, M.	Granville House, East Hardwick.
Ashton, A.	The Cowley Schools, St. Helen's.
Balbernie, R.	Eastville, Moor Oaks, Sheffield.
[2]Bridgland, J. D.	Elm Lodge, Petersham.
Bunker, K. H.	Margate Ladies' College.
Carr, E. M.	Stoke Newington High School, N.
Dearnaly, L.	The Grange School, Marple.
[2]Gudgeon, M. B.	West Central Collegiate School, W.C.
Halford, E.M.	Dresden House, Evesham.
Hills, A. M.	The George Green Schools, Poplar.
Holmes, D.	Curzon House, Portsmouth.
Jeffery, I. F.	Petersfield House, Midhurst.
Knight, E. A. H.	New College, Southampton.
Luce, E. A.	14 Elizabeth Place, Jersey.
Martin, A. E.	18 Charnwood Street, Derby.
Mellersh, M.	Newnham School, Harlesden, N.W.
Mutter, V. M. F.	Queen's Coll., Haverstock Hill, N.W.
Parker, M. H.	Chestnut House, Lincoln.
Pike, H. M.	Rosebank School, Alton, Herts.
Pitchford, M. A.	Ladies' College, Wellington, Salop.
Pocock, I. A. M.	Wandsworth High School for Girls.
[2]Polsue, W.	Stanstead House, Forest Hill, S.E.
Shortridge, G.	Private tuition.
Smith, D.	Arlington House S., Newport, Mon.
Sutton, H.	Curzon House, Portsmouth.
Veaco, E. M.	FaringtonLadies'Coll., NewBrighton
Watts, L.	Avondale, Croxteth Road, Liverpool.
Armitage, T. H.	Oak Hill, Huddersfield.
Ashe, W. H	4 St. Luke's Place, Cork.
Beere, G. M.	Colston's Girls' Day School, Bristol.
Beill, H. M.	23 Minster Rd., Brondesbury, N.W.
Blakiston, F. L.	St. Hilda's, Dover.
Caton, A. E.	West Ham High School, E.
Chamberlain, F.	Cleveland Coll., S. Hackney, N.E.
Dimoline, C. M.	College House, Barbourne, Worc.
Dixon, D.	High School, St. Anne's-on-Sea.
[2]Ede, E. C.	New College, Southampton.
Furze, E.	High School, Newton Abbot.
Gibbon, G.	Priory Ho. S., Clapton Common.
Haw, M.	Russell House School, Gt. Grimsby.
Healey, M.	Adelphi House, Salford.
Heppenstall, E. M.	Southolme High S., Whalley Range.
[2]Hyslop, A.	Westcombe House, Brighton.
[2]Iggulden, E.	Collingwood College, Lee, S.E.
Ivy, B.	Brentwood, Southport.
James, A.	Shrewsbury Collegiate School.
Judd, J. M.	Norwood Ho., Newsham Pk., L'pool.
Mill, E. M. F.	St. Leonard's Coll., Amhurst Pk., N.
Mitchell, C. A.	The Hall, Montpellier, Cheltenham.
[2]Morris, D.	Guildown Coll. S., Tunbridge Wells.
Neat, E. S.	Polytechnic School for Girls, W.
[2]Patisson, L. W.	Clareuce House, Penzaucc.
[2]Perrée, E. J.	Vauxhall School, Jersey.
Potter, L.	Ladies' Coll., Savile Park, Halifax.
Reece, E. M.	East Devon County S., Cullompton.
Rhodes, M. J.	Lynton House School, Margate.
[2]Roberts, D.	Private tuition.
Seantlebury, L. A.	Royal Masonic Inst., Battersea Rise.
Scholefield, A.	Academy, Crewe.
Sibthorpe, M. G.	Salisbury House, Littlehampton.
Texereau, M. E. R.	Masonic Hall School, Godalming.
Tregoning, S.	Clyde House School, Penzance.
Walsgrove N.	Huntingdon Street S., Nottingham.
Wilkins, M.	Camden School for Girls, N.W.
Williams, G. E.	Arlington House S., Newport, Mon.
Williams, V. F.	Eastholme, Farnham.
Aplin, E. L.	Colston's Girls' Day School, Bristol.
Atkin, R.	26 Ashley Road, Hornsey Rise, N.
Barling, E.	Alexandra Coll., Shirley, S'hampton.
Birch, A.	Warbreck Coll., Aintree, Liverpool.
Bird, J. M.	Somerville House, Northampton.
Bishop, E.	Roden House, Ongar.
[2]Browne, F. M.	High School, Bromyard, Worcester.
Butler, W. F.	Wellington College, Hastings.
Coleman, S. W.	Townley House School, Ramsgate.
Craine, K. I.	Abercromby School, Liverpool.
[2]Darnell, C. E.	Private tuition.
Ebsworth, E. G.	Moseley High School for Girls.
Edmonds, D. H.	Froebel House, Worthing.
Eldridge, L.	Cornwallis High School, Hastings.
Eupson, L.	Private tuition.
[2]Fisher, D. M.	Headland College, Plymouth.
Fisk, B.A.	Royal Masonic Inst., Battersea Rise.
Hibberdine, E. S.	Polytechnic School for Girls, W.
Jones, H. M. E.	Colston's Girls' Day School, Bristol.
Knight, J.	Towcester School.
Longland, E.	Clare House, Northampton.
Nichols, F.	Clare House, Northampton.
O'Connor, W. M.	Collingwood College, Lee, S.E.
[2]Pickering, J. A.	Birchington Bay College.
Pinniger, F. G.	Southside House, Weston-s.-Mare.
Robins, E. B.	Alexandra Coll., Shirley, S'hampton.
Robinson, E. M.	Carden School, Peckham Rye, S.E.
[2]Rothwell, M. E.	Morningside, WindsorRd., Southport
[1]Sherwin, J. A.	Fernie College, Highgate, N.
[2]Sterry, M. E.	College House School, Peckham.
Stuart, E.	Camden School for Girls, N.W.
Twohy, E. C.	Headland College, Plymouth.
Wailes, C. A.	St.Margaret's, RichmondRd., Cardiff
Whitaker, J. S.	Newbury House School, Gillingham.
Wilson, E. W. C.	Headland College, Plymouth.
Wood, M. M.	Everard House School, King'sLynn.
Woolnough, M. E.	Ellesmere Rd. S., Eccles, M'chester.
Wright, L. A.	Kendrick Girls' School, Reading.
Archbold, W. E.	Middle Class S., Vernon Rd., Leeds.
[2]Arnold, M. C.	Sterndale School, Wallington.
Baxter, A.	Convent High S., Loughborough.
[2]Blennerhasset, E.M.	Thornhill College, Barnsbury.
[2]Bloys, A. E.	49, North Street, Sudbury, Suffolk.
Bond, E. T.	Clyde House S., Tufnell Pk. Rd., N.
Brattan, K. N.	FaringtonLadies'Coll., NewBrighton
Charlesworth, E. M.	Betley Ladies' College, Crewe.
Couper, H. R.	Grey Coat Hospital, Westminster.
[2]Day, E. M.	Girls' Grammar School, Rochester.
Dimbleby, A.	Ashley House School, Worksop.
Edmonds, H. L.	College House, Newbury.
Foale, E. J. A.	Polytechnic School for Girls, W.
Gardiner, E. M.	Cornwallis High School, Hastings.
Gregory, M.	44 Shakespeare Street, Nottingham.
Griffiths, F. E.	Bank House, St. Columb, Cornwall.
Hancock, A. M.	E.DevonCountyS., SampfordPeverell
Hetherington, E.	Claremont College, Corsham, Wilts.
Houlden, M.	EllesmereRd.S., Eccles, Manchester.
Kimmins, N.	Ryeford Hall, Stonehouse, Glos.
Lloyd, M.	Queen Mary's High School, Walsall.
Lumaye, R. L.	Polytechnic School for Girls, W.
[2]Moore, E. B.	Saxon House, Worthing.
Nash, M. R.	Penketh Friends' S., Warrington.
[2]Ormond, L. M.	Emwell House School, Warminster.
Patterson, D. M.	Ladies' College, Wellington, Salop.
Peach, E. E.	Irvine House, Wilson Street, Derby.
Peppler, R. A.	Alexandra Coll., Shirley, S'hampton.
Pinder, E. M.	Camden School, Grafton St., Hull.
Pope, K.	Woodville, Pershore, Worcester.
Rayner, F. M.	Pendeen College, Mumbles.
Ridding, S. E.	Rockdale, Rickmansworth.
Rodber, A. C.	Yeovil High School for Girls.
Sawford, M.	Clevedon School, Northampton.
[2]Smith, M.	Ashleigh College, Mortlake.
Taylor, L. F.	Cornwallis High School, Hastings.
Thompson, L. E.	Polytechnic School for Girls, W.
Threlfall, L.	Higher Grade School, Southport.
[2]Welstead, M. McG.	Cheltenham Public Day School.
Whitehead, A. M.	High School, Newton Abbott.
Ashworth, R.	Colston's Girls'Day School, Bristol.
Bowler, L.	Beecholme College, Belper.
Cannon, E. C. L.	New College, Southampton.
Coffee, J.	Ladies' College, Fairfield, Liverpool.
Cummins, A.	Convent High S., Loughborough.
[2]Cutler, G. H.	Oakleigh House, Alfred Rd., Acton.
Davey, A. M.	Carisbrooke Coll., Walton, Liverpool.
[2]Dixon, V.	Martigny House, Melksham, Wilts.
Flower, E. E.	Wandsworth High School for Girls.
Fogg, L. E.	The Cowley Schools, St. Helen's.
Garrett, W. K.	50 St. John's Park, Up. Holloway, N.
Griffith, E. L.	Southside House, Weston-s.-Mare.
Heap, M.	North Mead House, Seacombe.
Hooton, E.	Anckland Ho., The Pk., Nottingham.
[2]Kenyon, R. A.	Clifton House School, Swinton.
[2]King, E. H.	Glenholme School, Paignton.
Langford, E.	Thornhill College, Barnsbury.
Lees, E. H.	Claremont House, Stockport.
Lowe, E. M.	Gowan Vill., Jesmond, N'castle-o-T.
[2]Malley, R. F.	Stoke School for Girls, Devonport.
Moore, M. A.	High School, Tewkesbury.
Pearce, A. S.	Polytechnic School for Girls, W.
[2]Phillips, L. M.	Grosvenor College, Bath.
Pittard, E.	Dunmarklyn, Weston-super-Mare.
Platts, H. L.	Haddo&WestwoodColl.S., Scarboro.
Plevin, E. M.	Alderhurst, Sale, Cheshire.
Pope, J. K.	New College, Southampton.
Powell, G.	Queen Mary's High School, Walsall.
Ralph, R. L.	Fern Bank, Wandsworth Common.
Scott, A.	Romford House School, Stratford.
Skally, M. A.	Waldrou House, Havant.
Smart, D. D.	Kendrick Girls' School, Reading.
Smith, J. M.	Queen Mary's High School, Walsall.
Strathern, M. E.	Royal Masonic Inst., Battersea Rise.
[2]Taylor, A. F.	Elm House School, Ealing Dean.
Walker, N. Q.	Girls'School, SouthShore, Blackpool.
Warburton, M.	Southolme High S., Whalley Range.
Wheeldon, R.	Higher Grade School, Southport.
Wilkinson, S.	Higher Grade School, Southport.
Banks, A. S.	Alexandra Coll., Shirley, S'hampton.
Baxter, M. G.	Llanberis, Mount Avenue, Ealing.
Bigg, F. A.	Margate Ladies' College.
Black, H.	Lea Holm, Waterloo, Liverpool.
Bruce, H. M.	Margate Ladies' College.
[2]Budd, E. L.	Holywell College, Weston-s.-Mare.
Butler, M.	Vale View House, Devizes.
Callwell, H. J.	Highfield, Beccles.
Charman, G. L.	Eastholme, Farnham.
Cullen, H.	Hollygirt, Nottingham.
Ellis, E. B.	Summerbrook, Reading.
Freeborough, E.	Ladies' College, Retford, Notts.
Grayson, A. E.	Camden School for Girls, N.W.
Guilbert, H.	Rose Bank, Sandown, I.W.
Haines, J. F.	Mayfield College, Marlborough.
Harvey, M.	Camacha, Bournemouth.
Kirby, B.	Highfield, Highbury, N.
Leighton, K. M.	Ellerslie House School, Hull.
Lewis, K. B.	Brentwood, Southport.
Macdonald, L.	Convent of Loreto, Hulme, M'chester.
Newman, E.	Polytechnic School for Girls, W.
Olley, H. C.	Grove House, Braintree.
Osgood, L. A.	Eastholme, Farnham.
Piper, F. E.	Lansdowne House S., Llandudno.
Sonl, D. W.	Totnes Girls' School, Devon.
Stott, A. M.	Broad Oak Hall, Accrington.
Westacott, E. M.	Camden School for Girls, N.W.
White, E. R.	Grey Coat Hospital, Westminster.
Wilkins, E. H.	Private tuition.
Wootton, E. L.	Queen Mary's High School, Walsall.
Bishop, A. F.	Summerbrook, Reading.
Burrow, C.	York Crescent S., Clifton, Bristol.
Coles, M. E.	Royal Masonic Inst., BatterseaRise.
Curryer, K. M.	Woking High School.
[2]Davey, I. M.	Eastholme, Cottingham, Hull.
Dixon, E.	The Cowley Schools, St. Helen's.
Donovan, A.	Convent of Loreto, Hulme, M'chester.
[2]Foale, L. E.	St. Hilda's, York Road, Exeter.
Gosling, J.	Queen's Walk School, Nottingham.
[2]Hardy, F.	Langley House, Ashbourne.
Hilliard, A. C.	Richmond, Passage W, Cork.
Hodson, E. M. E.	Grey Coat Hospital, Westminster.
Howard, E. D. H.	Royal Masonic Inst., Battersea Rise.
Howard, M.	Summerfld Hl. Maesycwmmer, C'df.
Hunton, A. E.	E.DevonCountyS., Sampf'dPeverell.
[2]Jones, M.	Stamford Hill and Clapton High S.
Lambert, E.	Grey Coat Hospital, Westminster.
[2]Latimer, E. M.	Southside House, Weston-s.-Mare.
[2]Lavington, W.	St. Helen's, Clifton, Bristol.
Layton, M.	Grey Coat Hospital, Westminster.
Lough, L. D.	ClevelandColl., SouthHackney, N.E.
Lowery, M. M.	Bank House, Over, Winsford, Ches.
[2]Marsh, M. H.	Southside House, Weston-s.-Mare.
[2]Mence, E. G.	Heathfield College, Balham.
[2]Perry, N. F.	St. Maur College, Chepstow.
Mitchell, C.	The Newlands, Bootle, Liverpool.
Mixer, E. K.	Highfield, Highbury, N.
Munns, D. M.	Rose Bank, Sandown, I.W.
Palfrey, E. A.	The Lymes, Sudbury, Suffolk.
Saunders, F. E.	BreanDownHo., Burnham, Somerset
Sayles, E. G.	69 Crescent Rd., Sharrow, Sheffield.
Screech, K. K.	Larchmount Hall, Yatton, Somerset.
[2]Sheffield, E.	4 St. Luke's Place, Cork.
Venables, J.	Treverbyn, Hornsey Lane, N.
Warner, A.	Clyde Villa, West Hampstead.
Waymouth, G. M.	Treverbyn, Hornsey Lane, N.
Westlake, E. G.	23Valletort Road, Stoke, Devonport.
Wilson, B. E.	Private tuition.
Ascough, E. M.	14 Yorkersgate, Malton, Yorks.
Bamforth, A.	E.DevonCountyS., Sampf'd Peverell.
Braine, D.	Harborne Ladies'Coll., Birmingham.
Braithwaite, G. E.	Burnham House S., East Bridgford.
Burgess, F. M.	College High School, Huddersfield.
[2]Clegg, M.	High School, St.-Anne's-on-Sea.
Cole, C.	Margate Ladies' College.
Cooke, H. W.	Camden School for Girls, N.W.
Cottew, M. W.	The Hall, Montpellier, Cheltenham.
Crowther, I.	Royal Masonic Inst., Battersea Rise.
[2]Davies, E. A.	Upland College, Stroud.
Ellis, E. R.	HopeHouse School, Weston-s.-Mare.
Ellis, M. M.	The Newlands, Bootle, Liverpool.
Freeman, E. E.	Stamford Hill and Clapton High S.
Good, E.	Highfield, Highbury N.
Gray, L.	Burlington Middle Class School, W.
Herridge, C. M.	Newbury House School, Gillingham.
Hunt, E.	Verecroft, Devizes.
Jesson-White, G.	Stratford Abbey College, Strond.
Jones, F.	Greenhill House, Stourbridge.
Kelly, T.	Convent of Loreto, Hulme, M'chester.
Lewns, M. J.	Royal Masonic Inst., Battersea Rise.
Lloyd, E. L.	Burlington Middle Class School, W.
Macmillan, A. M.	4 Jesmoud Rd., Newcastle-on-Tyne.
Milne, M. T.	West Ham High School, E.
Nicholson, E. A.	Chestnut House, Lincoln.
Oppermann, S. E.	The Homestead, Henley-on-Thames.
Osborne, F.	Private tuition.
Pickuell, A. M.	Ramshill House Coll., Petersfield.
Polley, M.	The Manse, Plaistow.
[2]Priestley, E. G.	Warwick House S., Littlehampton.
Roberts, H. C.	Polytechnic School for Girls, W.
Sackville, E.	Private tuition.
[2]Swann, E. A.	St. Michael's, Goring-on-Thames.
Thomas, M. A.	County School, Bethesda, N. Wales.
[2]Thompson, N. M.	Milton Mount College, Gravesend.
Watts, M. H.	Thornton House School, Grays.
Wess, N.	Warbreck College, Aintree, L'pool.
Wilson, E. M.	The Manor House School, Driffield.
Wolfsky, D. B.	Ivy House Coll. S., Crouch Hill, N.
Adnams, A.	College House, Newbury.
Armson, C. E.	Mount House, Melbourne, Derby.
Atwell, M. G.	Woolwich High School for Girls.
Barrett, E. L.	Stoke Newington High School, N.
Bletsoe, L.	Ellerker College, Richmond Hill.
Chisholm, M. A. M.	West Hill House, Eastbourne.
Christmas, M.	Havelock House School, Southsea.
Collet, B.	Rockdale, Rickmansworth.
[2]Craven, M. L.	Higher Grade School, Selby.
Cuzner, E. M.	Stainsbridge House, Malmesbury.
Day, A. M.	Avonbank House School, Bath.
Delve, A. M.	Grove School, Ilfracombe.
Dunton, A. L.	Queen Mary's High School, Walsall.
Edwards, E.	College High School, Huddersfield.
Edwards, N.	Camden School for Girls, N.W.
Gopp, F. M.	2 Eastfield Villas, Walthamstow.
Gossling, E. M.	West Central Collegiate School, W.C
[2]Griffiths, M. C.	41 Haggard Road, Twickenham.
[2]Heath, R. D.	New College, Southampton.

GIRLS, THIRD CLASS—*Continued.*

Herridge, M. G.	Rugby House College, Leamington.
Hiscock, M. A.	Wootton Mount S., Bournemouth.
Hofmann, M.	Clapton College, Upper Clapton.
Howard, I.	Larchmount Hall, Yatton, Somerset.
Hughes, D.	Longford Girls' School, Bristol.
Joice, W.	Summerbrook, Reading.
[2]Manners, M. I.	Purcell House, Scarborough.
McLeish, M. H.	Polytechnic School for Girls, W.
Myatt, G.	2 Oxford Park, Ilfracombe.
[2]Negus, W. S.	Claremont School, Surbiton.
Paramore, F. M.	Camden School for Girls, N.W.
[2]Pellow, C. M.	2 Oxford Park, Ilfracombe.
[2]Poole, M. L.	Brondesbury House, Margate.
Richardson, E.	Elphinstone College, Putney.
Steedman, M.	William Gibbs' School, Faversham.
Stockdale, F. E.	Rosebank School Alton, Hants.
Sutherland, A. M.	Meadowlands, Ashton-on-Mersey.
[2]Symington, M. D.	Brighton College, Southend.
Thacker, E. M.	Queen Mary's High School, Walsall.
Walford, M. J.	The Lymes, Sudbury, Suffolk.
Weber, F. E.	Collingwood College, Lee, S.E.
West, E. F.	Airedale House School, Gravesend.
Whittle, L.	William Gibbs' School, Faversham.
[2]Widdup, Z.	La Retraite, Atkins Rd., Clapham Pk.

THIRD CLASS.—2ND DIVISION.

Aldridge, M.	Portswood College, Southampton.
Bennett, M. E.	Girls' Collegiate School, Aldershot.
Birch, C. C.	Wolverhampton Ladies' College.
Bloomfield, G.	Couvent of Loreto, Hulme, M'chester.
Brehaut, I. L.	Fernleigh, Rohais, Guernsey.
[2]Burnett, L. M.	St. John's, South View, Eastbourne.
Burton, A. L.	Camden School for Girls, N.W.
Crosby, M. G.	Eastholme, Farnham.
[2]Ellett, O.	Glenholme School, Paignton.
Fay, H. L.	Girton House, West Brighton.
Fitch, K. M.	The Lymes, Sudbury, Suffolk.
Francis, V. M.	Private tuition.
[2]Fraser, E. M.	Collingwood College, Lee, S.E.
Garton, C. M.	Ladies' Collegiate S., Queen St., Deal.
Hakin, R.	Higher Grade School, Southport.
Harper, B. A.	Woolwich High School for Girls.
[2]Henthorn, E. G.	Ladies' Coll., Savile Park, Halifax.
Hope, V.	Clarendon House School, Kineton.
Howell, M. B.	Ladies' College, Hereford.
Humphreys, M.	Ladies' Coll., Savile Park, Halifax.
Jagger, M.	College High School, Huddersfield.
Jones, M.	Summerfld. Hl., Maesycwmmer, C'df.
Knaggs, F. N.	Trafalgar Square S., Scarborough.
Lilley, M.	Convent School, Southampton.
Looker, K. E.	Helena High School, Burgess Hill.
[2]Lucia, M.	Langton Ho. S., Bury St. Edmunds.
Morgan, E. M.	The Firs, Weston-super-Mare.
Plant, K.	Bank House School, Stafford.
Poirier, L. H.	2 Royal Crescent, Jersey.
Poulter, B. E.	Wakefield House School, Norwich.
Redman, H. M.	Private tuition.
Reed, M. E.	Oakwood House, Brighton.
Robson, J. P.	Gravesend Proprietary School.
[1]Rogers, E. W.	Chestnut House, Lincoln.
Russell, A.	Polytechnic School for Girls, W.
Scarlett, E. G.	Higher Grade School, Southport.
[2]Sipling, K.	Eastholme, Cottingham, Hull.
Stebbings, M.	Waveney House School, Harleston.
Tiley, E.	22 Heywood Street, Manchester.
[2]Veaco, I. M.	Farington Ladies' Coll., New Brighton
Wagstaff, M. S.	Brean Down House, Burnham, Som.
Wallace, A. M.	Stoke Newington High School, N.
Wardell, K. A.	St. Michael's Avenue S., Northampton
Watkins, H.	Avon House S., Bradford-on-Avon.
White, G. F. A. H.	Queen's Coll., Haverstock Hill, N.W.
Williams, F. M.	Malvern House, Reading.
Willocks, B. A. D.	Merton House, Charlbury, Oxon.
Adams, I. F.	Severn Bank, Shrewsbury.
Allen, W.	William Gibbs' School, Faversham.
Axten, L.	Ladies' School, The Close, Brighton.
Bagnell, M. E.	Colston's Girls' Day School, Bristol.
[2]Baxter, E. M.	St. Hilda's, Dover.
Beaumont, M. M. J.	Haldon View, St. David's Hill, Exeter.
Bosworth, M.	High School, Tewkesbury.
Bothamley, M. E.	Private tuition.
Boughton, E. A.	Camden School for Girls, N.W.
[2]Chinneck, F. E.	Private tuition.
Compton, F. A.	Greenhill House, Stourbridge.
Cox, B.	Sheffield Middle Class School.
Croudson, L.	Goole Grammar School.
Dibden, E. M.	St. Maur College, Chepstow.
Fielding, M.	Northlands, Blackpool.
[2]Fisher, A. M.	Milton Mount College, Gravesend.
Fletcher, M. B.	Camden School for Girls, N.W.
[2]Flewitt, L. M.	Moseley High School for Girls.
Gale, H. C.	Private tuition.
Greenwell, M.	High School, St. Anne's-on-Sea.
[2]Grigg, A.	Stoke School for Girls, Devonport.
[2]Hoskin, F. A.	Headland College, Plymouth.
Johnson, B.	Plas Madoc, Ruabon.
Lane, E.	Lynton House School, Margate.
Lovell, M.	Airedale House School, Gravesend.
Loveluck, W.	Raglan House, Brighton.
Marsh, S. J.	Curzon House, Portsmouth.
Moore, F. A.	Margate Ladies' College.
[2]Moore, R. L.	Private tuition.
Mortimore, A. E.	The College, Totnes.
Nicklin, E. M.	The Hollies, Edgbaston.
[2]Perry, M. E.	Cambridge House, Wootton Bassett.
Phillips, L. M.	Private tuition.
Porter, E. B.	Girls' School, South Shore, Blackpool.
Povey, A. G.	Norwood Ho., Newsham Pk., L'pool.
Pullin, B.	Larchmount Hall, Yatton, Somerset.
Roberts, C. J.	Totnes Girls' School, Devon.
Scrace, L. M.	171 Jerningham Road, New Cross.
Seagrave, A.	Queen's Walk School, Nottingham.
Sellen, L.	William Gibbs' School, Faversham.
Smitton, H. M.	Oakleigh House S., Sutton-in-Hooton.
Spink, E. J.	The Towers, Saltburn-by-Sea.
[2]Sweetnam, F. M. T.	Brentwood, Southport.
Thomas, M. I.	99 Cromwell Rd., Montpelier, Bristol.
Tritton, H. M.	Lansdowne House S., Llandudno.
[2]Ward, E. T.	Westbourne House, Cowes.
Adams, L. F.	Hanover House School, Ryde, I. W.
Baldock, L. E.	Burnham House S., East Bridgford.
[2]Barnett, H. M.	Sterndale School, Wallington.
Batchelor, D.	Oxford House School, St. Albans.
Brooker, B. M.	Norbury, Hartfield Sq., Eastbourne.
Carter, K. M.	Gravesend Proprietary School.
Church, H. K.	Llandaff House School, Norwich.
Collyer, F.	Margate Ladies' College.
Cruse, G. E.	St. Bernard's, Southsea.
Cust, E. A.	Wharncliffe Ho. S., Sandown, I. W.
Davies, E.	Northgate House, March.
Davies, M. G.	Hill House Coll., Haverfordwest.
Day, A. I.	Sittingbourne College, Kent.
Drinan, O.	Ellerker College, Richmond Hill.
[2]Ellis, K. L.	Buckingham Ho., Ravenscourt Pk. W
Elton, L.	Clevedon School, Northampton.
Everton, M.	Queen Mary's High School, Walsall.
Fawcett, M. A.	Arundel House, Scarborough.
Foot, A. S.	Grosvenor School, Wokingham.
Fry, J. E.	Camden School for Girls, N.W.
[2]Hawker, E. S.	Westholme, Maidenhead.
[2]Horrod, J. A. L.	16 Montrell Rd., Streatham Hill, S.W.
Kilner, A. S.	Private tuition.
Kilpin, E. H.	Royal Masonic Inst., Battersea Rise.
[2]King, I. M.	Emwell House School, Warminster.
Leigh, A. M.	Arden Vale, Hampton-in-Arden.
Little, J. E.	Brunswick House, Carlisle.
[2]Mann, A.	Heathfield College, Balham.
Mayne, M.	Wandsworth High School for Girls.
Mowat, A.	East Finchley High School, N.
Munday, H. M.	Camden School for Girls, N.W.
Pickworth, F.	Melrose House School, Kettering.
Rounce, I. H.	Eastholme School, Lowestoft.
Saunders, F. A.	Polytechnic School for Girls, W.
Scott, S. S.	Loretto House, Hornsey Lane, N.
Simpson, E. W.	Arundel House, Scarborough.
Slater, E. M.	Amble House College, Streatham.
Soole, E. E.	Grey Coat Hospital, Westminster.
[2]Strickland, H. L.	Kensington Lodge, Clifton, Bristol.
Vesey, K.	Girls' Collegiate School, Aldershot.
Vincent, M. H.	174 Church Street, Stoke Newington.
[2]Walker, G. D.	Irvine House, Wilson St., Derby.
Wallis, M. E.	St. Michael's Avenue S., Northampton
Warburton, E. C.	Crofton Leigh, Bowdon, Cheshire.
Whaite, E. M.	Eastholme School, Lowestoft.
White, O. F.	Wharncliffe House S., Sandown, I.W.
[2]Whittell, G.	Ennoor Lodge Coll. S., New Leeds.
Wise, C. E.	Polytechnic School for Girls, W.
Arkcoll, E. M.	Polytechnic School for Girls, W.
[2]Bailey, E.	Ipswich Street School, Stowmarket.
[2]Banks, M. P.	The High School, Richmond.
Barnett, M. K.	28 Castle Street, Salisbury.
Bibbings, E.	High School, Newton Abbot.
[2]Bland, F. L.	Westholme, Maidenhead.
Brown, A. S.	Campden Hill Coll., Kensington, W.
Carter, E. M.	Southside House, Weston-s.-Mare.
Crabtree, H.	St. George's House, Doncaster.
Dalton, D. M.	West Hill House, Eastbourne.
Davies, E. M.	188 Albion Road, Stoke Newington.
Deedman, E. J.	Stoke House, Guildford.
Dunkley, A.	East Finchley High School, N.
[2]Gosden, I. E.	Granville School, Midhurst.
Green, G. F.	Larchmount Hall, Yatton, Somerset.
Gould, A. L.	54 Sutherland Avenue, W.
Hambling, A. O.	Babington House, Eltham, Kent.
Harris, J. C.	Oakwood House, Brighton.
Hartree, K. W.	2 Duke Street, Bath.
Head, A. M.	Mayfield College, Marlborough.
Holmes, A.	Ashley House School, Worksop.
Iles, A. K.	Mecklenburg House, Putney Hill.
[2]James, A.	Cumberl'd Coll., Acock's Grn., B'ham.
[2]Jones, E. F.	Girls' County School, Welshpool.
Leach, A. B.	Llanreath, Boscombe.
Littlewood, R. H. L.	Girls' Grammar School, Halifax.
Lunt, L.	Ingleside, Aintree, Liverpool.
Morris, W. M.	Oakhurst, Mount Park Rd., Ealing.
Packham, E.	Little Rockley, Hurstpierpoint.
[2]Pike, L. E.	Avondale Coll., Winchmore Hill, N.
Richards, B. A.	Trinity House School, Lowestoft.
Ross, E.	York Crescent S., Clifton, Bristol.
Russell, E. M.	Private tuition.
Scudamore, W. I.	Camden School for Girls, N.W.
Simmonds, N. E.	Private tuition.
Thomas, B. R.	St. Mary's School, Whitchurch.
Thompson, F. C.	Northlands, Blackpool.
Thompson, I. E.	Congleton High School, Cheshire.
Tomalyn-Potts, M. A. V.	Roy. Masonic Inst., Battersea Rise
Wardill, E.	Ascham College, Cowes, Isle of W.
Watkin, M. H.	Clevedon School, Northampton.
Whistler, D.	Holmwood College, Petersfield.
Whitley, H.	St. James' Ladies' School, Jersey.
Williams, E. M.	Hughenden, Bexhill.
Williams, E. V.	Southolme High S., Whalley Range.
Windeatt, G. F.	Totnes Girls' School, Devon.
Withers, E.	Rose Bank, Sandown, Isle of W.
Woodcock, R. T.	Grafton House, Aldeborough.
Anderson, E.	William Gibbs' School, Faversham.
Baker, F.	Roseberry College, Southsea.
Bardrick, R.	Colston's Girls' Day School, Bristol.
Black, M.	Ryeford Hall, Stonehouse, Glos.
Bletsoe, E.	Ellerker College, Richmond Hill.
Bowes-Scott, V.	6 Redesdale Street, Chelsea.
Brown, E. J.	Congleton High School, Cheshire.
Bull, E. F.	Clevedon School, Northampton.
Bultitaft, E. M.	St. Mary's School, Ely, Cambs.
Clough, L.	Higher Grade School, Southport.
Cowley, F.	Henry Street School, Bolton.
Crofts, E. M.	The Woodroughs, Moseley.
England, E. M.	Buckland House School, Axminster.
[2]Griffin, C. A.	The Firs, Weston-super-Mare.
Henderson, M. L.	Ellesmere House, Whitchurch.
Holbeche, L.	Wolverhampton Ladies' College.
James, F. M.	Eastholme, Farnham.
[2]Lucas, M. E.	Milton Mount College, Gravesend.
Marston, E. C.	Gravelly Hill High School, B'ham.
Matthews, E. M.	Lansdowne House S., Llandudno.
Maxwell, H.	Newnham School, Harlesden, N.W.
McWean, P.	Wallasey Girls' Coll. School, Liscard.
Millen, A.	William Gibbs' School, Faversham.
Morris, I. M.	Meadowlands, Ashton-on-Mersey.
Parker, J. N.	12 Clyde Road, West Didsbury.
Rouse, C.	Grey Coat Hospital, Westminster.
Ryan, L.	Alderhurst, Sale, Cheshire.
Sharman, A. E.	Somerville House, Northampton.
[2]Smith, E. E.	Howard College, Bedford.
[2]Staghall, B. M.	Ormeside High School, Llandudno.
Thorn, J. F.	Cashiobury House, Southend.
Turley, C. M.	Newton House S., Tunbridge Wells.
Wadhams, L. T.	Clevedon School, Northampton.
[2]West, K.	Stanstead House, Forest Hill, S.E.
Wetherald, F.	Higher Grade School, Southport.
Wilson, D.	Oak Hill, Huddersfield.
Withers, E. L.	Rose Bank, Sandown, Isle of Wight.
Woodroffe, K. M.	Wiuslow Villa, Sutton, Surrey.
Ahier, M. M.	2 Royal Crescent, Jersey.
[2]Andrews, C.	Eton Park Coll., Fellows Rd., N.W.
Ascott, E. M.	Irvine House, Wilson Street, Derby.
Bamford, K.	Clevedon School, Northampton.
Barnes, V. E.	Petersfield House, Midhurst.
[2]Barton, J.	Collingwood College, Lee, S.E.
Beckett, L. E.	Eastville, Moor Oaks, Sheffield.
Bickley, E. R.	6 Claremont Rd., Bishopston, Bristol.
Brooke, E. M.	St. George's Coll., W. Hampst'd, N.W.
[2]Capstick, M.	Butterley Car Coll., Ripley, Derby.
Cordner, E.	Ryeford Hall, Stonehouse, Glos.
Curtis, E. L.	Portway House School, Bath.
[2]Davies, D. M.	Girls' County School, Welshpool.
[2]Edwards, R.	Albany High School, Brighton.
[2]Farquharson, A. M.	M. Irvine House, Wilson St., Derby.
Flint, A. M.	Sterndale School, Wallington.
Genge, K.	Arundell House, Tisbury, Wilts.
Gregg, V. G.	Howard College, Bedford.
Hamblen, M. M.	Leigh Bank College, Leamington.
Irving, A. A.	Colston's Girls' Day S., Bristol.
Kay, E. R.	Highfield School, Addiscombe.
Lightman, H.	Polytechnic School for Girls, W.
March, K. L.	Vernon House, Pembridge Villas, W.
Meakin, G. E.	Mount House, Melbourne, Derby.
Moore, E. J.	Montague College, Salisbury.
Nicklin, J. M.	The Hollies, Edgbaston.
Palmer, M.	Longford Girls' School, Bristol.
Parsons, M.	Lynwood School, Trowbridge.
Pattison, R.	The Rookery, King's Norton.
[2]Price, I.	Ellerker College, Richmond Hill.
[2]Ralph, E. M.	Headland College, Plymouth.
[2]Richardson, L.	Emwell House School, Warminster.
Roe, E.	Margate Ladies' College.
Scales, M. E.	Malvern House School, Birkdale.
Simpson, K. A.	Olney House, Hastings.
Smith, M. G.	14 Yorkersgate, Malton, Yorks.
Spendiff, E.	William Gibbs' School, Faversham.
Thompson, O. G.	High School, Stalker Rd., Harrogate.
Upton, M. C.	Orton College, Water Orton.
Wheeler, E. A.	The Lymes, Sudbury, Suffolk.
[2]Whitfield, D. E.	Milton Mount College, Gravesend.
Wilson, W. D.	Dorchester House S., Clacton-on-Sea.
[2]Wishart, D.	Fairholme, Streatham.
Addey, E. E.	St. Anne's College, St. Anne's-on-Sea.
[2]Barber, E.	Farington Ladies' Coll., New Brighton
Briggs, A. M.	Moravian School, Bradford.
Bull, A. M.	Grey Coat Hospital, Westminster.
Cryer, A.	Breck College, Poulton-le-Fylde.
[2]Dimbleby, H.	The High School, Richmond.
Flamank, A.	Bank House, St. Columb, Cornwall.
Fleetwood, D.	Rookwood Girls' School, Malvern.
Forrest, R. E. H.	Wellington College, Hastings.
Gardner, E. M.	Royal Masonic Inst., Battersea Rise.
Garnett, V. A.	Private tuition.
[2]Grove, A. B.	Roan Girls' School, Greenwich.
Grubb, E. M. W.	The Laurels, Overcliffe, Gravesend.
Hannam, E. A.	Devonshire House S., Wincanton.
Headley, G. L.	The Woodroughs, Moseley.
Higgins, E. M.	Fernleigh, Rohais, Guernsey.
Hone, O. L. E.	Buckingh'm Ho., Ravenscourt Pk., W
Kelly, M. F.	Plas Madoc, Ruabon.
Last, L.	William Gibbs' School, Faversham.
Mason, E.	Higher Grade School, Southport.
Moore, A. A.	Polytechnic School for Girls, W.
[2]Park, A.	Girton House, Yeovil.
Patchett, M.	Brentwood, Southport.
Petheram, O. P.	Colston's Girls' Day School, Bristol.
Samuel, M. A.	Private tuition.
Sanders, B. S.	The College, Totnes.
Schofield, E.	Trafalgar Square S., Scarborough.
Seal, F. V.	Highfield School, Addiscombe.
Smith, C. A.	Lyttleton Arms S., Hagley, Worc.
Smith, L. M.	Royal Masonic Inst., Battersea Rise.
Snow, F. L.	Tufnell Park College, N.
Spencer, M. M.	Fernleigh, Rohais, Guernsey.
[2]Tyrrell, H. V.	Private tuition.
Walker, G. A.	Girls' Grammar School, Worcester.
Walker, K.	Malvern House School, Birkdale.
Webb, E. C.	Grey Coat Hospital, Westminster.
[2]Williams, H. M. E.	Brean Down House, Burnham, Som.
Young, D.	High School, Herne Bay.
Youwin, F. L.	Crescent House College, Gravesend.
Agnew, D.	Private tuition.
Armstrong, L.	Ashley House School, Worksop.
Bagnall, M.	Adelphi House, Salford.

GIRLS, THIRD CLASS—*Continued.*

Birch, N.	Warbreck Coll., Aintree, Liverpool.
Bobby, M.	Wakefield House School, Norwich.
Burgess, A. C.	College High School, Huddersfield.
Carr, G. W.	Stoke Newington High School, N.
Carr, M.	Down End, The Avenue, Clifton.
Curtis, C. W.	Hanover House School, Ryde, I.W.
[2]Draper, B. S.	Eastville, Moor Oak, Sheffield.
Dundas, J.	Hemdean House, Caversham.
Dunlop, M. M.	Camden School for Girls, N.W.
Flux, A. M.	Amble House College, Streatham.
Gabbutt, L. J.	Mount House, Melbourne, Derby.
Goldseller, M. R.	Higher Grade School, Southport.
Griffiths, M.	Girls' County School, Welshpool.
Hardy, E.	Royal Masonic Inst., Battersea Rise.
Harris, I. C.	Towcester School.
Harvey, A. M. D.	Camden School for Girls, N.W.
Heward, B.	Kingston Ho. S., Thornaby-on-Tees.
Irwin, K. M.	Chatwin House School, Darlington.
Kissack, F.	Southlands, Douglas, Isle of Man.
Launitz-Schiirer, P.	Anglo-French Ladies' College, Bristol
Levene, J.	Camden School for Girls, N.W.
Masters, D.	Brean Down House, Burnham, Som.
McLeod, G. R.	Royal Masonic Inst., Battersea Rise.
[2]Morgan, G. S.	Private tuition.
Morris, B. R.	Meadowlands, Ashton-le-Mersey.
Parkin, C.	Ashley House School, Worksop.
Patterson, A. W.	Girls' Collegiate School, Aldershot.
[2]Payne, R.	The Park School, Yeovil.
Pembry, D.	Grey Coat Hospital, Westminster.
Roberts, A.	Higher Grade Girls'S., Merthyr Tydfil.
Shorrock, F.	Higher Grade School, Southport.
Stranger, P. M.	Edgehill House, Bodmin.
Sweetnam, V. T.	Brentwood, Southport.
Thomas, M. M.	Stratford Abbey College, Stroud.
Whitworth, E. E.	Daisy Bank School, Rochdale.
Williams, M.	Colston's Girls' Day School, Bristol.
Wood, F.	High School, Herne Bay.
Yates, E. A.	Summerbrook, Reading.
York, H.	Ladies' College, Wellington, Salop.
[2]Bayley, V. M.	Babington House, Eltham, Kent.
Bowness, E. W.	Camden School for Girls, N.W.
Butterworth, A.	Breck College, Poulton-le-Fylde.
Carns, M.	Convent of Loreto, Hulme, M'chester.
Charley, E. N.	St. Margaret's Ho., Hove, Sussex.
Cooper, A. M.	Hughenden, Bexhill.
Davis, E.	Buckland House S., Axminster.
[2]Derry, H. C.	Headland College, Plymouth.
Dowling, A. M. M.	Westbourne House, Cowes.
[2]Edmondson, F.	Brookville, Filey.
Fraser, E. M.	Private tuition.
Frost, A. M.	Moreton House School, Dunstable.
Hancock, E. M.	Treverbyn, Hornsey Lane, N.
Hastings, M.	Private tuition.
Hayward, G. I.	Higher Grade School, Southport.
Holland, K. M.	Brooklyn H., Wellington, Shropshire.
Kerss, I.	Wolverhampton Ladies' College.
Line, R. E.	High School, Reading.
Marston, A.	Ladies' College, Fairfield, L'pool.
Massy, A.	Bank House, Over, Winsford, Ches.
Mead, M. G. I.	North Park College, Croydon.
Nash, G. H.	Gulls' Haunt, Seaford.
[2]Neale, A.	11 Stopford Place, Stoke, Devonport.
Osborne, L. M.	Hanover House School, Ryde, I. W.
Owen, E. R.	Newport High School, Newport, Mon.
Pearce, E. C.	Ladies' College, Hereford.
Peeke, P.	The College, Totnes.
Petley, G. S.	Lee College, Eastbourne.
Robinson, K.	Westonmere, Newland, Lincoln.
Rogers, L. M.	Highfield School, Addiscombe.
Salisbury, L. M. K.	Royal Masonic Inst., Battersea Rise.
Stevens, M. C.	Glendower, St. Anne's-on-Sea.
Taylor, E. M.	Seaton House S., Mutley, Plymouth.
Walton, E.	Ellerslie House School, Hull.
West, S. M.	Teutercroft School, Lincolu.
Williams, M. W. A.	Lansdowne House S., Llandudno.
Allebone, E. G.	Howard College, Bedford.
Barrow-Clough, R. M.	High School, King's Lynn.
Bloomer, B. A.	Poplar Terrace S., Wolverhampton.
Bromley, E. R. S.	Ashfield House, Newcastle-on-Tyne.
Chapman, E. K.	Buckingham Ho. Ravenscourt Pk. W.
Chappell, H. C.	Lonsdale House School, Norwich.
Clausen, M. M.	Private tuition.
Collis, C. M.	Stanmore House, Weston-s.-Mare.
Crowder, L. C.	St. Winifred's, Southampton.
Dishart, E. H.	Academy, Crewe.
Down, L.	Birchington Bay College.
Dunstan, K. L.	Higher Grade Girls'S., Merthyr Tydfil.
Edmiston, I. G.	Wellington College, Hastings.
Evans, M. J.	Higher Grade Girls'S., Merthyr Tydfil.
Francis, E. H.	Private tuition.
Garratt, G. K.	Grey Coat Hospital, Westminster.
[2]Gaukroger, F.	Ladies' Coll., Savile Park, Halifax.
Gray, D. E.	Portway House School, Bath.
Hadfield, A. M.	Private tuition.
[2]Hague, E.	Private tuition.
Hart, I. A.	Castle Hall School, Northampton.
Heslop, E.	The Towers, Saltburn-by-Sea.
Holmes, C. M.	Academy, Crewe.
Hurst, C.	Queen Mary's High School, Walsall.
[2]James, A. F.	Girls' County School, Welshpool.
[1]Keel, G. A.	Plas Madoc, Ruabon.
Kimpton, M. L.	Sterndale School, Wallington.
Kneen, H.	Boscombe High S., Bournemouth.
Knott, E. M. M.	Hanover House School, Ryde, I.W.
[2]Lacey, F. M.	Bishopston Girls' High S., Bristol.
Leadley, C. J.	Deerhaddun College, Brixton.
Leigh, R. C.	Bank House, Over, Winsford, Ches.
Lewis, N. E.	New College, Southampton.
Lickis, D.	Grey Coat Hospital, Westminster.
Mason, L. B.	Stafford Street School, Brewood.
Matthews, E. L.	Grey Coat Hospital, Westminster.
Odell, E. G.	Wilber House School, Biggleswade.
Parton, W. M.	Olive Cottage, New St., Shrewsbury.
Powell, V. G.	Amble House College, Streatham.
Power, L.	Hambury House, Edgbaston.
Ratcliffe, E. L.	Lonsdale House School, Norwich.
Rickwood, M. M.	Private tuition.
Shufflebotham, M.	Craigholm, Buxton.
Smith, F. M.	West Bank, Durham Road, Sheffield.
Smith, H. S.	Wakefield House School, Norwich.
Solly, M.	Normanholme, Gravesend.
[2]Stewart, E. S.	Abbey House School, Selby.
Strouts, M.	High School, Sittingbourne.
Walker, E.	Brookside School, Darlington.
Webb, P. M.	St. Helen's, Clifton, Bristol.
Wilkinson, A. B.	Elmswood Coll., Stretford, M'chester
Wilson, E. B.	Grove House, Braintree.
Batchelor, F. E.	Montague College, Salisbury.
[2]Beagley, E. M.	Sherbrook Road S., Fulham, S.W.
Bradford, A. E.	Fairfield College, Exmouth.
Brown, J. C.	The Lymes, Sudbury, Suffolk.
Butler, W.	Ladies' College, Retford, Notts.
Cottew, V. B.	Townley House School, Ramsgate.
Cronk, E.	Private tuition.
Duckering, M.	Westonmere, Newland, Lincoln.
[2]Dye, A. M.	43 Westbourne Terrace, Lincoln.
Garside, C.	Higher Grade School, Southport.
Gordon, E. E.	Priory House S., Clapton Common.
Greatrex, M. I.	Queen Mary's High School, Walsall.
Hands, F.	Cumberl'd Coll., Acock's Grn., B'ham.
Hatton, E. A.	Grey Coat Hospital, Westminster.
Hayes, E. E.	Larchmount Hall, Yatton, Somerset.
Henderson, D. A.	Gravesend Proprietary School.
[2]Hill, L. O.	Upland College, Stroud.
Holden, E.	Holly Bank, Wilmslow.
Hughes, M. H.	Longford Girls' School, Bristol.
Jones, A. L. A.	Grey Coat Hospital, Westminster.
[2]Joseph, M. G.	Newport High S., Newport, Mon.
Keatinge, G. M.	Betley Ladies' College, Crewe.
Kitching, A. K.	Arundel House, Scarborough.
Lardner, W.	Convent of Loreto, Hulme, M'chester.
Lister, M. A.	The Hollies, Edgbaston.
Newport, D.	Wine Street House, Frome.
Parker, M. A.	West Ham High School, E.
Parry, E. M.	Harley House School, Hereford.
Peppet, M.	Kendrick Girls' School, Reading.
[2]Pigott, F. M.	High School, Reading.
Pinnegar, H. M.	Prospect House, St. Neot's, Hunts.
Reay, M.	Oakwood, Brampton, Cumberland.
Richards, A.	Clyde House School, Penzance.
Richards, J.	Royal Masonic Inst., Battersea Rise.
Roberts, A. M.	Dresden House, Evesham.
Sacret, E. M.	Wandsworth High School for Girls.
Sayer, P. R.	6 Redesdale Street, Chelsea.
Sissons, J.	Lea Holm, Waterloo, Liverpool.
Southall, G.	The Rookery, King's Norton.
Stevens, M. H.	Broad Green School, Wellingborough.
Westley, A. E.	Clevedon School, Northampton.
Whyte, R.	The College, Westbourne Pk. Villas, W
Wing, G.	Private tuition.
Bahm, G. D.	Babington House, Eltham, Kent.
Bockelmann, M. S.	Moreton House School, Dunstable.
Bridgeman, M. E. A.	Townley House School, Ramsgate.
Brims, C. M.	Ashfield House, Newcastle-on-Tyne.
Bryars, S. A.	Abbeyfield Mount High S., Sheffield.
Butler, F. S.	Fortescue College, Radstock, Bath.
Cliffe, C. C.	Queen Mary's High School, Walsall.
Cole, T. M.	Vicarage Home School, Tetbury.
[2]D'Aguilar, E. R.	36 Grosvenor, Bath.
Dale, I. K.	Amble House College, Streatham.
Duff, E J.	Cleveland Lodge, Douglas, Isle of Man
[2]Duffus M.	East Finchley High School, N.
[2]Edwards, M.	Somerville House, Northampton.
Gray, J. E.	Hanover House School, Ryde, I.W.
Griffiths, V.	Brenholly, Clytha Pk., Newport, Mon
[2]Hagyard, W.	Reginald Terrace School, Leeds.
Hairs, F. E. J.	Irvine House, Wilson Street, Derby.
Hall, E. M.	Dresden House, Evesham.
Harris, M.	Belmont House School, Norwich.
Herbert, M. M.	49 North Street, Sudbury, Suffolk.
Hodges, L. H.	Priory House S., Clapton Common.
Jackson, A. F.	Holmden Coll., Battenhale, Worc.
Mayer, F. E.	Camden School for Girls, N.W.
McDowall, E.	College House School, Peckham.
Mee, C. M.	Broad Green School, Wellingborough.
Moriarty, E.	York Crescent S., Clifton, Bristol.
[2]Münzing, R. J.	Ashleigh College, Mortlake.
Milligan, H.	Craigholm, Buxton.
Oliver, K. M.	The Lymes, Sudbury, Suffolk.
Pearce, L. H.	South Bristol Girls' High School.
[2]Pickard, S. E.	St. Anne's College, St. Anne's-on-Sea.
Sharp, W.	Hyde House S., Tollington Pk., N.
Stubbs, A. D.	Bank House School, Stafford.
Webster, H. G.	Highfield, Highbury, N.
Winship, B.	Monk Bridge School, York.
Wren, F. M.	Highfield School, Addiscombe.
Aveling, D. M.	Christ's College, Blackheath.
Benson, M. A.	Yeovil High School for Girls.
Bevis, C. M.	Curzon House, Portsmouth.
Bones, S. E.	40 Stockwell Park Road, S.W.
Bradbeer, M. W.	North Bristol School for Girls.
Brown, A. B.	St. Winifred's, Southampton.
Burnege, D.	West Central Collegiate School, W.C.
Cato, L. M.	Camden School for Girls, N.W.
Clausen, K. F.	Private tuition.
Cooper, B.	The Orchard, Kinburn, Egham.
Cox, D.	29 South Terrace, Cork.
Davis, M. F.	Portway House School, Bath.
Eames, A. M.	Grey Coat Hospital, Westminster.
[2]Eddlestone, B.	Nile House School, Whitley.
Gomer, N.	Ladies' College, Retford, Notts.
Jennings, L. R.	Mill Hill Coll., Eden Bridge, Kent.
Johnson D. A.	South Croydon College.
Johnson, M. M.	Westbourne House S., Chiswick.
Kellett, M. A.	Southlands, Douglas, Isle of Man.
Kerridge, D. R.	The Manse, Plaistow.
Lee, E. M.	Colston's Girls' Day School, Bristol.
Leigh, E.	Private tuition.
Marvin, C. M.	Hanover House School, Ryde, I. W.
[2]Myerson, G.	Camden School for Girls, N.W.
[2]Nunn, L. A.	The Cottage, Little Oakley, Harwich.
Pitts, D. W.	St. Peter's House, Chichester.
Prideaux, D. M.	Royal Masonic Inst., Battersea Rise.
Reeves, E.	Polytechnic School for Girls, W.
Singlehurst, M. R. D.	Norwood Ho., Newsham Pk., L'pool.
Styles, M. T.	Camden School for Girls, N.W.
Watt, F.	Betley Ladies' College, Crewe.
Wearing, E. M.	The Hall, Montpellier, Cheltenham.
Webb, N. E.	Private tuition.
Welding, K.	The Cowley Schools, St. Helen's.
Weller, F.	Kendrick Girls' School, Reading.
White, V. M.	Royal Masonic Inst., Battersea Rise
Annakin, J.	Huntcliffe House, Harrogate.
Armstrong, E. M.	Stainsbridge House, Malmesbury.
Bawden, E. R.	Grove School, Ilfracombe.
Bellew, A. L.	Fairfield College, Exmouth.
Broadbent, E. L.	Waverley College, Stroud Green, N.
Brown, A.	Daisy Bank School, Rochdale.
Buscombe, M. M.	Headland College, Plymouth.
Butcher, A. E.	St. Michael's Avenue S., Northampton
Button, D. N.	Private tuition.
Carswell, E. M.	Polytechnic School for Girls, W.
Carter, E. F.	Grey Coat Hospital, Westminster.
Chamberlin, B.	Eton Park College, Fellows Rd., N.W.
Cowell, L. W.	Camden School for Girls, N.W.
Coulston, L. L.	Eton House School, Cheltenham.
[2]Cox, E. L.	Ashleigh House, Poulton, Bristol.
Dickson, M.	Margate Ladies' College.
Disney, K.	Seven Thorns, Fairfield, Manchester.
[2]Dixon, K. E.	Clyde House S., Tufnell Park Road, N.
Dixon, R. M.	West Ham High School, E.
Foster, I.	Glengarry, Birkdale, Southport.
Fraser, D.	The Towers, Saltburn-by-Sea.
Gorton, B.	Carlton House, Eccles, Lancs.
Griffiths, E. M.	Bank House, St. Columb, Cornwall.
Hardstaff, G. M.	Burnham House S., East Bridgford.
Harker, E.	Albert Place S., Richmond, Yorks.
Heastie, K. E.	Royal Masonic Inst., Battersea Rise.
Hoggard, L. E.	Midddle Class S., Vernon Rd., Leeds.
Hughes, M. D.	Covenham, Southport.
Holder, N. B.	Ramshill House Coll., Petersfield.
Jones, N. M.	Oak Villa School, Wrexham.
Libby, D.	Parc Bracket Coll. S., Camborne.
Manby, I.	The Lymes, Sudbury, Suffolk.
Manly, N.	Ferndale School, Broxbourne.
Manning, E. A.	Central High School, Eastbourne.
[2]Marchant, G.	Butterley Car Coll., Ripley, Derby.
McDonald, M. K.	St. Winifred's, Southampton.
Nicholson, V.	Lynton House School, Margate.
Oades, D. M. L.	Nevill College, Tunbridge Wells.
Oliver, L. M.	Milford House School, Newport, Mon.
Payne, L.	18 Charnwood Street, Derby.
[2]Pratt, F. E.	Girton House, West Brighton.
Rhea, M.	Ashleigh College, Mortlake.
Sharp, N. F.	11 Stopford Place, Stoke, Devonport.
Smith, G. M.	Burton House, Weston-super-Mare.
Smith, M. H.	Carleton College, Tufnell Park, N.
Soutar, E.	Clevedon School, Northampton.
Squire, N. M.	Buckingham Ho. Ravenscourt Pk., W.
Stevens, E. M.	Ladies' S., Clarendon Sq., Leamington
Thomas, L.	Ladies' School, Hayle, Cornwall.
Watson, M.	Oakwood, Brampton, Cumberland.
Wells, M.	Hollygirt, Nottingham.
Willcox, F. E.	Durham House School, Eastbourne.
Williams, E.	Longford Girls' School, Bristol.
Wilson, G. N.	Ferndale School, Broxbourne.
Wimshurst, W.	Roccabruna, Bexhill.
Young-Wood, J.	Collingwood College, Lee, S.E.
[2]Booth, K. B.	South Hornsey High School, N.
Caunon, K.	Longsight House, Southport.
Carney, M. E.	St. Maur College, Chepstow.
Corbett, E. M.	Ladies' College, Wellington, Salop.
Cowpe, M.	Red Lion St. Hr. Grade S., Burnley.
Davies, M. M.	Higher Grade Girls'S., Merthyr Tydfil.
Davy, M.	Polytechnic School for Girls, W.
Deuchar, E. L.	Queen's Walk School, Nottingham.
Dixon, M.	The Cowley Schools, St. Helen's.
Edwards, K.	Summerfld. Hl., Maesycwmmer, Cdff.
Fitch, J.	Hemnalls, Epping.
Fulford, B.	Cumberld. Coll., Acock's Grn., B'ham.
Gravenell, M. E.	High School, Tewkesbury.
Harrison, J.	Powerscroft, South Woodford.
Hill, B.	Adelphi House, Salford.
Holland, F. A.	Stainsbridge House, Malmesbury.
Hunter, W. J.	West Ham High School, E.
Hutchinson, A. F.	171 Jerningham Road, New Cross.
Johnston, L.	Craigholm, Buxton.
Jones, B.	Greenhill House, Stourbridge.
Lewis, H. S.	Bishopston Girls' High S., Bristol.
Lindley, E.	Burnham House S., East Bridgford.
Lowther, M. C.	Chatwin House S., Darlington.
Matthews, A. G.	College House, Newbury.
Montgomery, A.	Girls' Grammar School, Halifax.
Moore, A.	Albany High School, Brighton.
Moseley, E. M.	Crofton Leigh, Bowdon, Cheshire.
Needham, E. G. A.	Collingwood College, Lee, S.E.
Pagen, B. W.	North Mead House, Seacombe.
Parsons, M.	Larchmount Hall, Yatton, Somerset.
Phillips, K. M.	Queen Mary's High School, Walsall.
Riley, S. E.	Lady Bank School, Tamworth.
Rosenfeld, C.	Doreck Coll., Kensington Gdns. Sq. W.
Sellars, M. F.	4 Trinity Terrace, Cheltenham.
Skinner, E. R.	High School, New Brompton, Kent.
Smith, D. R.	Grosvenor School, Twickenham.
[2]Stockbridge, E. I.	Collingwood College, Lee, S.E.
Stringer, E. L.	Church of England High S., Gravesend
Swallow, C.	Coston Park School, Levenshulme.
Tallent-Bateman, M. Z.	Private tuition.

GIRLS, THIRD CLASS—*Continued.*

Teare, F. B.	Southlands, Douglas, Isle of Man.
Turner, E. M.	Herne Bay College.
Watson, M. A.	Malvern House, Reading.
Webb, E. A.	Colston's Girls' Day School, Bristol.
Woods, A.	Camden School for Girls, N.W.
Wyer, E. M.	Verecroft. Devizes.
Abbott, E. E.	Private tuition.
Avery, B.	Larchmount Hall, Yatton, Somerset.
Boorman, E. T.	William Gibbs' School, Faversham.
Booth, E. G.	Treverbyn, Hornsey Lane, N.
Carter, H. R.	West Hill House, Eastbourne.
Dawson, A. E.	31 Beaudesert, Leighton Buzzard.
Edwards, H. M.	Girls' High School, Nelson, Lancs.
Elliott, E. M.	Church of England High S., Gravesend
Fallows, A.	Clifton College, Matlock Bath.
[2]Fenvey, O. R.	St. Winifred's, Southampton.
[2]Furnival, B.	Ormeside High School, Llandudno.
Fynney, M. L.	Northlands, Blackpool.
Grandjean, A.	Lea-Hurst, Upper Clapton, N.E.
Henn, B. C.	Greenhill House, Stourbridge.
Herald, J.	Cleveland, Douglas, Isle of Man.
[2]Horth, E.	Fair View House S., Coleshill, B'ham.
Hunt, D. B.	Stoke Newington High School, N.
Irvine, H. M.	Heidelberg, Ealing.
Kempton, E.	St. Mary's School, Ely, Cambs.
Kermote, A. I.	Southlands, Douglas, Isle of Man.
Kilner, S. C.	Private tuition.
[2]Kirsopp, A. M.	Low Fell School, Gateshead-on-Tyne
Law, C.	Elmswood Coll., Stretford, M'chester
Lindsay, J.	Fernleigh, Rohais, Guernsey.
[2]Littlejohn, E. J.	Portswood High S., Southampton.
[2]Marshall, E. M.	Teddesley House, Walsall.
McKeer, M. A.	Harlesden College, Harlesden, N.W.
Overett, S. E.	Carden School, Peckham Rye, S.E.
Patterson, E.	Cumberl'd Coll., Acock's Grn., B'ham.
Pickett, M. T.	The Maze, Bournemouth.
Plews, M. H. P.	Selborne House, Gateshead.
Purkis, E. M.	Stainsbridge House, Malmesbury.
Pursell, F. F.	Burlington Middle Class School, W.
Robinson, I.	Chestnut House, Lincoln.
Smallwood, M. E.	St. John's Priory, Banbury, Oxon.
Stanford, E. S.	Greenhill House, Stourbridge.
Stigings, C. J.	Totnes Girls' School, Devon.
Stillman, G. M.	Irvine House, Wilson Street, Derby.
Symonds, E. D.	Cheyne College, Godalming.
Thornburn, E.	Lady Bank School, Tamworth.
Westover, M. E.	Rossholme Ladies' Coll., Weston-s.-M
White, E. A.	Grey Coat Hospital, Westminster.
[2]Williamson, M. M.	High School, The Sands, Swindon.
Beckett, M.	Eton House School, Sheffield.
Benson, D.	Wrexham High School for Girls.
Bird, H. A.	22 Heywood Street, Manchester.
[2]Boocock, R. M.	Middle Class S., Vernon Rd., Leeds.
[2]Borthwick, G. M.	Bodlondeb, Colwyn Bay.
Bourne, L.	William Gibbs' School, Faversham.
Brookes, F.	Grey Coat Hospital, Westminster.
Buckingham, R. E.	Surrey House School, Norwich.
Carter-Davies, M.	Englefield, Newport, Monmouth.
Clapham, K. L.	Treverbyn, Hornsey Lane, N.
Clark, E. H.	Betley Ladies College, Crewe.
Coleman, M. M.	Claremont House, Stockport.
Cook, H. M.	23 Valletort Rd., Stoke Devonport.
Earnshaw, K. M.	Lee College, Eastbourne.
Eaton, C. B.	Irvine House, Wilson Street, Derby.
Edmonds, J. H.	High School, New Brompton, Kent.
Everingham, A.B.J.	Private tuition.
Gettings, M. A.	Wolverhampton Ladies' College.
Glanville, M.	High School, Newton Abbott.
Goodwin, E. R.	Margate Ladies' College.
Hammond, M.	St. Winifred's, Southampton.
[2]Hope, J. M.	Wallasey Girls' Coll. School, Liscard.
Jesson, B. M.	Portswood College, Southampton.
Jillard, W. B.	Headland College, Plymouth.
King, M. L.	Portswood College, Southampton.
King, R. C.	Kemmendine House, Shrewsbury.
Learner, M. E.	Clough School, Reigate.
Leeson, C. M.	West View Ladies' S., Bromsgrove.
Marriott, C.	Ely House, Wolverhampton.
Maxwell, B.	Newnham School, Harlesden, N.W.
Morell, L.	Polytechnic School for Girls, W.
Pagnam, M.	Northlands, Blackpool.
Raggett, A. E.	Yorkbourne, South Shore, Blackpool.
Read, A. E.	Haddo & Westwood Coll. S., Scarboro.
Sims, A. L.	Stanmore House, Richmond, S.W.
Spindelow, C.	Burlington Middle Class School, W.
Travis, J. E.	Humberstone Vicarage, Grimsby.
[2]Turner, L. M.	Saltram Crescent School, W. Kilburn.
Tweedale, M. B.	Fylde Lodge, Heaton Mersey.
Villiers, B. S.	Colston's Girls' Day School, Bristol.
Wallis, E. H.	College House, Newbury.
Watson, M. B.	Grey Coat Hospital, Westminster.
[2]Wolf, M. B.	Friarage Villa, Aylesbury.
Woodcock, A.	St. George's College, Barnsley.
Zeiher, L.	Eton House School, Sheffield.
Acock, F. G.	The College, Totnes.
Briggs, N.	Brentwood, Southport.
Buxton, A. L.	Polytechnic School for Girls, W.
Cooper, M. M.	Hughenden, Bexhill.
Curtis, E. M.	Cambridge House School, Salisbury.
Curtis, F. M.	Hanover House School, Ryde, I.W.
Dodd, F. H.	Campden Hill Coll., Kensington, W.
Dodd, G.	Royal Masonic Inst., Battersea Rise.
Dunham, I.	Moreton House School, Dunstable.
Edgell, A. E.	Crofton Leigh, Bowdon, Cheshire.
Edwards, E. D.	Ely House, Wolverhampton.
Fairclough, A.	Convent of Loreto, Hulme, M'chester
Fraser, M. E.	66 Abbey Road, St. John's Wood.
Gash, G.	Ballywodan Female S., Bandon, Cork
Golby, L. B. M.	Albany High School, Brighton.
Gray, B. T.	Glenholme School, Paignton.
Guthrie, M.	Selborne House, Gateshead.
Knott, E. L.	Southside House, Weston-sup.-Mare.
[2]Lea, K. W.	The Hill House, Framlingham.
Lewis, A. M.	St. Maur College, Chepstow.
MacCarthy, E.	The Hollies, Edgbaston.
Mackie, M.	Malvern House School, Birkdale.
Mallet, E. M.	Ashton House School, Jersey.
Manning, B. E.	Victoria House High S., Dorking.
Nunn, H. M.	2 Eastfield Villas, Walthamstow.
Spencer, H.	Private tuition.
Trestain, K. A.	The Firs, Weston-super-Mare.
Tryon, E. H.	St. Helen's, Clifton, Bristol.
Whiting, G.	William Gibbs' School, Faversham.
Wild, F. M.	Rugby House College, Leamington.
Arnold, C.	High School, Herne Bay.
Barton, A.	William Gibbs' School, Faversham.
Beaumont, E.	Malvern House School, Birkdale.
Beachcroft, R. K.	Moseley High School for Girls.
Boardman, S.	The Cowley Schools, St. Helen's.
Brooke, V.	St. Cecilia's College, Margate.
Browne, M.	William Gibbs' School, Faversham.
Buckingham, D. H.	Surrey House School, Norwich.
Collister, A. M.	Powerscroft, South Woodford.
Hopper, F. A.	Gunnerside School, Plymouth.
Hughes-Kirkby, F.	Portland Terrace School, Jersey.
Jones, G.	Lansdowne House S., Llandudno.
Jones, T. S.	Ladies' College, Hereford.
Leonard, C. A.	High School, Sittingbourne.
Lickis, N.	Grey Coat Hospital, Westminster.
Liddell, C.	Isle of Wight High School, Ryde.
Meek, S. S. M.	Leigh Bank College, Leamington.
Shephard, M.	Benalbyn, New Barnet.
Thackara, G. C.	Gavine House School, Portsmouth.
Toynbee, M. M.	Sterndale School, Wallington.
Tweedy, A.	Mowbray Place School, Thirsk.
Vint, E. M.	Cornwallis High School, Hastings.
Walmsley, E.	Ladies' College, Wellington, Salop.
Watson, F.	Kingston Ho. S., Thornaby-on-Tees.
Wells, B.	Wakefield House School, Norwich.
Williamson, F.	Albany High School, Brighton.
Wright, W. H. J.	Newlyn House, Wolverhampton.
Alsop, G. M.	St. Michael's Avenue S., N'thampton.
Anderson, H. S.	William Gibbs' School, Faversham.
Bamford, J. M.	Clarendon House, Leominster.
Beardshaw, M. A.	Mecklenburg House, Putney Hill.
Birley, F.	Cleveland Ldg., Douglas, Isle of Man.
Brooks, F. A.	West Bank, Durham Rd., Sheffield.
Brown, D.	Northlands, Blackpool.
Browning, E. H.	Kent House, Southend.
Buchanan, E. McC.	26 Trinity Road, Bootle, Liverpool.
Butterfield, E. A.	St. George's College, Barnsley.
Chafer, E. G.	St. George's House, Doncaster.
Corbett, E. L.	Wolverhampton Ladies' College.
Corbett, L. C.	Lynwood School, Trowbridge.
Croker, Elizabeth	29, South Terrace, Cork.
Goddard, D. A.	Private tuition.
Hall, E. M.	Grey Coat Hospital, Westminster.
Harris, E. R.	High School, Bridgwater.
Hill, B. S.	York House School, Chorley, Lancs.
Hill, L.	Queen Mary's High School, Walsall.
Holmes, F. E.	High School, Tewkesbury.
Kirk, L.	Mowbray Place School, Thirsk.
Lawler, E.	Convent of Loreto, Hulme, M'chester.
Lewis, H.	Higher Grade Girls' S., Merthyr Tydfil.
Lowe, M. L.	Bishopston Girls' High S., Bristol.
Lumaye, E. L.	Polytechnic School for Girls.
Osborne, C. M.	High School, Bromyard, Worcester.
Piton, L. M.	Vauxhall School, Jersey.
Ransom, J. C.	Ion House S., East Molesey, Surrey.
Retford, G. E.	Grey Coat Hospital, Westminster.
Roberts, D. E.	Ivy House Coll. S., Crouch Hill, N.
Sells, C. E.	Grey Coat Hospital, Westminster.
Wakelin, K.	Grove House, Braintree.
Walklett, E.	Byfield House, Painswick.
Wells, E.	Brenchley, Paddock Wood, Kent.
White, E.	Convent School, Southampton.
[2]Williams, M. S.	St. Maur College, Chepstow.

THIRD CLASS.—3RD DIVISION.

Armfield, E. S.	Grey Coat Hospital, Westminster.
Braden, E. S.	Private tuition.
Bradford, L. B.	Fairfield College, Exmouth.
Cooling, C. M.	Newlyn House, Wolverhampton.
Cousins, L. N. M.	Brean Down House, Burnham, Som.
[2]Fairclough, C. M.	Private tuition.
[2]Ferguson, R.	121 George Street, Limerick.
Flewitt, L. E.	Moseley High School for Girls.
[2]Fothergill, G. L.	Howard College, Bedford.
Gabell, A. E.	171 Jerningham Road, New Cross.
Hale, L.	Grey Coat Hospital, Westminster.
[2]Hawes, N. C.	Camden School for Girls, N.W.
Hoar, E. E.	Margate Ladies' College.
Lees, L. M.	Claremont House, Stockport.
Lucas, A. M.	Portswood High S., Southampton.
Pilditch, G.	Babington House, Eltham, Kent.
Reeve, E. M.	Normanton, Preston Pk., Brighton.
Sheffield, E. M.	Fairfield College, Exmouth.
Steele, F. M.	Broadfield, Rochdale.
Summerfield, E.	San Remo, Eastbourne.
Taylor, L. M.	Girls' School, South Shore, Blackpool.
Taylor, M.	Cumberl'd Coll., Acock's Grn. B'ham.
White, N.	Higher Grade School, Southport.
Williams, A. M.	Queen Mary's High School, Walsall.
Wright, M. G.	Wakefield House School, Norwich.
Yates, M. M.	Glengarry, Birkdale, Southport.
Andrews, D. H.	Babington House, Eltham, Kent.
Atcherley, C.E.	Polytechnic School for Girls, W.
Boshier, H.	Milford House S., Newport, Mon.
Buckpitt, V. A.	Ivyside, Trowbridge.
Bull, W. D.	Pestalozzian School, Southampton.
Darby, C.	Warbreck Coll., Aintree, Liverpool.
Davage, G.	Abbeyfield Mount High S., Sheffield.
Davis, M. H.	High School, Reading.
Davis, M. I.	Norwood Ho., Newsham Pk., L'pool.
Dye, G.	43 Westbourne Terrace, Lincoln.
Field, A.	Dresden House, Evesham.
Ford, F. E. B.	Westbourne House, Cowes.
Goddard, C. E.	Gravesend Proprietary School.
Gollins, W. M.	Eign Leigh School, Hereford.
Hansford, G. M.	Dresden Villa, Hampton Rd., Bristol.
[2]Hodges, J. G.	Stoneleigh House, Nailsworth, Glos.
Horwood, S. E.	Vicarage Home School, Tetbury.
Maskell, G. E.	49 North St., Sudbury, Suffolk.
Mason, F. E.	Gravesend Proprietary School.
Olley, E. H.	Surrey House School, Norwich.
Payne, A.	Ingleside, Aintree, Liverpool.
Randall, B. M.	Clevedon School, Northampton.
Richards, N.	Hyde House S., Tollington Pk., N.
Smith, K.	William Gibbs' School, Faversham.
Smith, L. G.	Deerhaddun College, Brixton.
Starnes, L. F.	The Limes, Buckhurst Hill.
Stephenson, A. M.	Victory Terrace, Coatham, Redcar.
Wakefield, A. M.	Royal Masonic Inst., Battersea Rise.
Walden, C. L.	Grosvenor School, Wokingham.
Woodruff, E.	William Gibbs' School, Faversham.
Youle, L. J.	Parkholme, Sheffield.
[2]Blyth, I.	Ellerker College, Richmond Hill.
Bowe, M. P.	St. John's Priory, Banbury, Oxon.
Briggs, B.	High School, Herne Bay.
Foster, F. S.	3 Teme St., Tenbury Wells, Worc.
Gaukroger, E.	Ladies' Coll., Savile Park, Halifax.
Hebditch, L. M.	Stanmore House, Weston-s.-Mare.
Herbert, M.	Breuholly, Clytha Pk., Newport, Mon.
[2]Hilton, D. G.	Longsight House, Southport.
Jones, E.	Ingleside, Aintree, Liverpool.
Mainwaring, F. W.	Lon. Coll. Gram. S., Holloway Rd., N
Newitt, L.	Grey Coat Hospital, Westminster.
Norman, A. M.	Grey Coat Hospital, Westminster.
Raymond, M.	Yeovil High School for Girls.
Rigg, M.	Private tuition.
Salisbury, L. V.	Rossholme Ladies' Coll., Weston-s.-M
Snelgar, E. M.	Montague College, Salisbury.
Stephen, M. C. W.	Pendeen College, Mumbles.
Stott, E. M.	Eastthorpe, Mirfield, Yorkshire.
Symonds, V. G.	Stratford Abbey College, Stroud.
Teece, T. M.	Church of England High S., Gravesend
Thompson, C. E.	Buxton Lodge Collegiate S., Luton.
Ancell, B.	St. Bernard's, Southsea.
Brenton, W. L.	Ellerker College, Richmond Hill.
Coish, E. H.	Queen's Coll., Haverstock Hill, N.W.
Crapper, B.	Wandsworth High School for Girls.
Downie, E.	7 Hall Terrace, Gateshead-on-Tyne.
Fincher, L.	31 Beaudesert, Leighton Buzzard.
Gardner, E. L. M.	Royal Masonic Inst., Battersea Rise.
[2]Griffith, S. M.	Milton Mount College, Gravesend.
Jeffery, F. M.	The Villa, Bexley Heath.
Mumford, E. B.	18 Charnwood Street, Derby.
Oliver, A. B.	Ladies' S., Clarendon Sq., Leamington
Phillips, A. M. G.	Ryeford Hall, Stonehouse, Glos.
Pugh, F.	Girls' County School, Welshpool.
Radford, G. M.	Hambury House, Edgbaston.
Rose, E.	Oakhurst, Mount Pk. Rd., Ealing.
[2]Salter, K. E. W.	Heathfield College, Balham.
Simms, C. E.	Arundel House, Scarborough.
Tapscott, M.	High School, Bridgwater.
Bell, A.	Upland School, Newbury.
Bingley, M. G.	Enmoor Lodge Coll. S., New Leeds.
Bird, G. H.	Private tuition.
Canning, S. B.	26 Ashley Road, Hornsey Rise, N.
Comins, L.	Alpine Villa School, Sunninghill.
Crocker, E. M.	Portswood College, Southampton.
Dixon, A.	Mowbray School, Sunderland.
Driscoll, B. G.	South Hornsey High School, N.
Figgiss, E. L.	Private tuition.
Francis, E. M.	High School, King's Lynn.
Grierson, L. S.	Hyde House S., Tollington Park, N.
Holmes, B.	William Gibbs' School, Faversham.
Holmes, M. E.	High School, Tewkesbury.
[2]King, R. D.	Kemmendine House, Shrewsbury.
Mills, L.	Rockend, Brixham, South Devon.
Orme, D. M.	Girls' School, Atherstone.
Paterson, B. H.	Private tuition.
Power, L. A.	East Finchley High School, N.
Provis, E. E.	Guildown Coll. S., Tunbridge Wells.
Rees, N.	St. David's School, Carnarvon.
Rigby, B.	Northlands, Blackpool.
Shrubb, E. S.	Camden School for Girls, N.W.
Smith, E. H.	Mostyn House School, West Kirby.
Sumner, D. B.	Babington House, Eltham, Kent.
Thomson, E.	Westbourne House, Cowes.
Wheeler, E. M.	Stamford Hill and Clapton High S.
Bazley, M.	The Halve, Trowbridge.
Cremer, M.	34 Park Road, Sittingbourne.
Crossley, R. M.	Broadfield, Rochdale.
Farrell, L.	Vicarage Home School, Tetbury.
Hammett, M.	Longsdale, Mannamead, Plymouth.
Houlden, E. A.	High School, King's Lynn.
Jackson, M. E.	Malvern House, Reading.
Johnstone, B.	Royal Masonic Inst., Battersea Rise.
Lough, W. H.	Grey Coat Hospital, Westminster.
Miller, V. A.	Cambridge House S., Chichester.
Pearson, F.	North Mead House, Seacombe.
Raymond, J.	Lonsdale, Mannamead, Plymouth.
Sparke, J.	St. Hilda's College, Hexham.
Stacey, F. E.	Winslow Villa, Sutton, Surrey.
Thring, A. F.	Girton House, Yeovil.
Warfield, A. M. W.	54 Sutherland Avenue, W.
Wheildon, C. M.	Castle House, Great Malvern.
Barlow, E.	Claremont House, Stockport.
Bennet, S.	Craigholme, Buxton.
Besch, H.	Mecklenburgh House, Putney Hill.
Beyts, K. E.	Doreck Coll., Kensington Gdns. Sq., W
Bicknell, M. E.	Grey Coat Hospital, Westminster.
Bust, L. B.	Mecklenburg House, Putney Hill.
Chandler, K.	Mill Hill Coll., Eden Bridge, Kent.

GIRLS, THIRD CLASS—*Continued.*

Dale, L.	Twyford College, South Hampstead.
Edwards, E. L.	Crofton House, Manchester.
Fleming, J.	Ladies' Coll., Savile Park, Halifax.
George, G.	Summerfld. Hl., Maesycwmmer, C'df.
Guymer, L.	Eastholme School, Lowestoft.
Harrington, E. K.	Rhianva College, Hunstanton.
Hawkes, M. E.	Wootton Mount S., Bournemouth.
Hickling, M.	Coston Park School, Levenshulme.
Hill, F.	29 South Terrace, Cork.
Hillier, M. M.	Clevedon School, Northampton.
Hind, M.	Moravian School, Bradford.
Hooley, E.	Claremont House, Stockport.
Meatyard, B. M.	28 Castle Street, Salisbury.
Meatyard, K. L.	Newbury House School, Gillingham.
Myrtle, F. M.	Stoneyhurst, Buxton.
Penfold, G. D.	Babington House, Eltham, Kent.
Roberts, A.	St. David's School, Carnarvon.
Smith, M. A.	Portland St. High S., Manchester.
Smith-Spark, V. F.	Breau Down House, Burnham, Som.
Terrell, D. A.	St. Helen's, Clifton, Bristol.
Williams, L.,	174 Church St., Stoke Newington, N.
Williams, E. F.	Priory House, Clapton Common.
Adams, E. M.	Grey Coat Hospital, Westminster.
Adams, L.	Central High School, Eastbourne.
Anderson, M. L.	York House School, Chorley, Lancs.
Beggs, H.	Branstone House S., Newport, I.W.
Benson, O. M.	Private tuition.
Browse, C. B.	Glenholme School, Paignton.
Danniell, M.	Twyford College, South Hampstead.
Farquhar, A. C.	St. Winifred's, Southampton.
Gregson, C.	Rhianva College, Hunstanton.
Hathaway, M.	Castle House, Great Malvern.
Hatherell, E. M.	Stainsbridge House, Malmesbury.
Horton, E.	Tyrwhitt College, Brockley, S.E.
Knight, E. B.	Durham House School, Eastbourne.
Lallow, M. A.	Westbourne House, Cowes.
Martin, I.	Ladies' School, The Close, Brighton.
McCarthy, G.	Irvine House, Wilson Street, Derby.
Oliver, G. M.	Private tuition.
[2]Ormsby, E. I.	The Abbey, Beckington, Bath.
Palmer, C. M. E.	Colston's Girls' Day School, Bristol.
Parmenter, F. D.	Grove House, Braintree.
Potter, E. E.	Bishop Fox's Girls' School, Taunton.
Quarterman, I. L.	Private tuition.
Shea, A.	Grey Coat Hospital, Westminster.
Warin, L.	Victory Terrace, Coatham, Redcar.
Webb, N. M.	St. Winifred's, Southampton.
Winfield, W.	High School, King's Lynn.
Bright, J. M.	St. Mary's School, Whitchurch.
Dugdall, G. L.	Rockend, Brixham, South Devon.
Foot, B. E.	Grey Coat Hospital, Westminster.
Lomax, A.	Commercial School, Astley Bridge.
Seller, E. M.	Trafalgar Square School, Scarboro'.
[2]Twist, J. S.	Abbey House School, Selby.
Watson, M. M.	High School, New Brompton, Kent.
Williams, M. E.	Hill House College, Haverfordwest.
Williams, M. H.	Claremont College, Corsham, Wilts.
Buck, E. A.	Royal Masonic Inst., Battersea Rise.
Castle, J. M.	East Finchley High School, N.
Croker, Emma	29 South Terrace, Cork.
Eastbury, E. A.	Dresden Villa, Hampton Rd., Bristol.
Godward, E. L.	Lond. Coll. Gr. S., Holloway Rd., N.
Hatton, C.	Queen Mary's High School, Walsall.
Holt, M. M.	Severn Bank, Shrewsbury.
Hopkins, M.	Oakhurst, Mount Park Rd., Ealing.
Husson, E. F.	Gunnerside School, Plymouth.
Ibberson, F.	Eastthorpe, Mirfield, Yorkshire.
[2]Lord, S. F. E.	Belgrave Ho. S., Rawtenstall, Lancs.
Moore, G. D.	St. John's, South View, Eastbourne.
Nix, O.	Central High School, Eastbourne.
Oliver, G. R.	Private tuition.
Shoesmith, M.	Raglan House, Brighton.
Smith, M.	Private tuition.
Stephenson, M.	Red Lion St. Hr. Grade S., Burnley.
Thomson, H. M.	Nile House School, Whitley.
Tindall, M.	Trafalgar Square S., Scarborough.
Wyatt, A.	Lonsdale, Mannamead, Plymouth.
Allen, H. M.	Lady Bank School, Tamworth.
Bartholomew, G.	South Hornsey High School, N.
Bedser, H. L.	Stoke House, Guildford.
Carter, M.	Camden School for Girls, N.W.
Cowell, M.	Claremont, Ramsey, Isle of Man.
Gascoigne, E.	Grey Coat Hospital, Westminster.
Hall, A. M.	Wolverhampton Ladies' College.
Harper, H.	Ellerker College, Richmond Hill.
Hunter, M.	Priory House, Claptou Common.
[2]Levick, G.	The Institute, Perry Barr, B'ham.
Medlam, E. J.	Grey Coat Hospital, Westminster.
Park, W. R.	54 Sutherland Avenue, W.
Patterson, D. S.	Arlington House S., Newport, Mon.
Rennie, A. F.	Grey Coat Hospital, Westminster.
Ridley, L. A.	High School, Newton Abbot.
Roberts, E. A.	Girls' County School, Welshpool.
Robinson, M. N.	Highbury Wesleyan Girls' School, N.
[2]Scott, G. E.	Albany High School, Brighton.
Skull, M. K.	Bardon House, High Wycombe.
Spurgin, E.	Oakhurst, Mount Pk. Rd., Ealing.
Towndrow, N. J.	Rookwood Girls' School, Malvern.
Watmough, M. E.	Ashby College, Brockley, S.E.
Watson, C. V. J.	Oakwood, Brampton, Cumberland.
Webb, M. D.	Elmswood Coll., Stretford, M'chester
Wettenhall, C. S.	Private tuition.
Bott, R.	Camperdown, West Norwood, S.E.
Bramwell, M.	Portland St. High S., Manchester.
Bullock, E. A.	Ladies' College, Wellington, Salop.
Cocks, M.	Headland College, Plymouth.
Cumming, G. M. V.	Wallasey Girls' Coll. S., Liscard.
Deacon, M. A.	Larchmount Hall, Yatton, Somerset.
Flaxington, M. M.	Huntcliffe House, Harrogate.
Hunt, E.	Red Lion St. Higher Grade S., Burnley.
Jennings, R.	The Poplars, Small Heath, B'ham.
King, E. F. M	Portswood College, Southampton.
Levack, F. H.	Modern School, South Shields.
Murdoch, J.	Parc Bracket Coll. S., Camborne.
Pearcy, G. V.	Newlands, Stoke Newington, N.
Perry, M. C.	High School, Reading.
Tilsley, M.	High School, St. Anne's-on-Sea.
Wadman, E.	Ladies' School, The Close, Brighton.
Barrow, D.	Park House, Belmont Park, Lee, S.E.
Brown, W. M.	Kensington Lodge, Clifton, Bristol.
Childs, M.	Petersfield House, Midhurst.
Gravely, K. E.	28 Hampton Road, Redland, Bristol.
Harcombe, E. R.	Victory Terrace, Coatham, Redcar.
Hicks, F.	Grey Coat Hospital, Westminster.
Howells, W.	St. Hilda's, York Road, Exeter.
Johnson, L. B.	186 Coltman Street, Hull.
Ledger, V.	Sterndale School, Wallington.
Newth, H. F.	Llanberis, Mount Avenue, Ealing.
Parry, D. E.	St. Maur College, Chepstow.
Righton, K.	Covenham, Southport.
Wilkinson, A.	Girls' High School, Nelson, Lancs.
Wyatt, H.	Upland School, Newbury.
Amyes, H.	Loretto House, Hornsey Lane, N.
Bliss, E. M.	The Hall, Montpellier, Cheltenham.
Carnochan, L. F. J.	Ford House, Dartmouth.
Cooper, B.	Castle Dene, Newport, Isle of Wight.
Cowley, E. E.	Stoke Newington High School, N.
Dennis, M. E.	Wharncliffe Ho. S., Sandown, I.W.
Dodd, E. P.	High School, The Sands, Swindon.
Freemont, A.	Newlands, Stoke Newington, N.
Gaisford, E.	Emwell House School, Warminster.
Goddard, C. E.	Wootton Mount S., Bournemouth.
[2]Goddard, F. M.	Collingwood College, Lee, S.E.
Greenslade, L.	High School, Reading.
Harrop, L.	Leigh Bank College, Leamington.
Leach, M. S.	28 Castle Street, Salisbury.
Matthews, I.	Crescent House College, Gravesend.
Mears, A. M.	Hemdean House, Caversham.
Michell, M. A.	Private tuition.
Mutlow, A. M.	Wandsworth High School for Girls.
O'Connor, P.	Convent of Mercy, Chelsea, S.W.
Proctor, M. F.	12 Bridge Street, Chepstow.
Soole, E. L.	Grey Coat Hospital, Westminster.
Squire, A. E.	Clarendon College, Plymouth.
Tilsley, A. M.	Academy, Crewe.
Townend, A. I.	St. George's House, Doncaster.
Turpin, F, L.	Pembroke House School, Jersey.
Bearman, F. M.	Grove House, Braintree.
Briggs, E. A.	Stanley House S., Stockton-on-Tees.
Broughton, D.	Grey Coat Hospital, Westminster.
Charter, M. N. L.	1 Grove Street, Hull.
Emery, C. E.	St. Michael's Avenue S., N'hampton.
Hammond, V. M.	Prospect House, St. Neot's, Hunts.
Manning, E. H.	Portland St. High S., Manchester.
Manser, W. A.	Collegiate School, Brentford.
Robinson, G. L.	Margate Ladies' College.
Sellar, M. A.	Barrington House, York.
Stops, M. E.	Castle Hall School, Northampton.
Swain, N.	Newlands, Stoke Newington, N.
Symonds, C.	St. Bernard's, Southsea.
Webb, V. I. E.	Private tuition.
Wood, I.	Girls' S., South Shore, Blackpool.
Adams, B.	Central High School, Eastbourne.
Armfield, G. K.	Grey Coat Hospital, Westminster.
Booth, M. J.	123 Millbrook Road, Southampton.
Burdett, W.	St. George's House, Doncaster.
Cook, E. J.	High School, Bromyard, Worcester.
Cooper, E. M.	Private tuition.
[2]Fauzer, A.	Stratford Abbey College, Stroud.
Hervé, E. H.	Lynton House School, Margate.
Hill, A.	Irvine House, Wilson Street, Derby.
King, M. M.	Rhianva College, Hunstanton.
Mayes, A. L. G.	186 Coltman Street, Hull.
Stott, E. B.	Crofton Leigh, Bowdon, Cheshire.
Tuck, D. O.	Upland College, Stroud.
Tulip, A.	Modern School, South Shields.
Watson, B.	Grey Coat Hospital, Westminster.
Bayley, D. A.	London Coll. Gr. S., Holloway Rd., N.
Bell, H.	Mowbray School, Sunderland.
Berridge, M. A.	Private tuition.
Boue, E. J.	Ramshill House College, Petersfield.
Browne, V. M.	23 Valletort Road, Stoke, Devonport.
Engall, L. M.	Kenilworth College, Hastings.
Francis, E. L.	Milford House S., Newport, Mon.
Gateley, M. B.	Arden Vale, Hampton-in-Arden.
Godrich, P. A.	9 Kingsgate Street, Winchester.
Hunter, D. F.	Private tuition.
Johnson, A. H.	Irvine House, Wilson Street, Derby.
Simpson, R. F.	Irvine House, Wilson Street, Derby.
Warden, E. K.	Archer's School, Southampton.
Amery, E. G.	Clarendon College, Plymouth.
Cheshire, J.	Howard College, Bedford.
Claridge-Turner, F. M.	Private tuition.
Haylett, A.	Royal Masonic Inst., Battersea Rise.
Hind, A.	Moravian School, Bradford.
Holgreaves, E. I.	Trafalgar Square School, Scarboro.
McCarraher, M. N.	123 Millbrook Road, Southampton.
Meadows. E. M.	Warbreck College, Aintree, Liverpool.
Mullin, A. B. A.	Ladies' College, Hereford.
Satchwll, C. B.	Headland College, Plymouth.
Angus, G. M.	Private tuition.
Barter, L. F.	Collingwood College, Lee, S.E.
Basché, A. F.	Burlington Middle Class School, W.
Brunyee, G.	Elm Lodge, Petersham.
Charlton, W. D.	Collegiate School, Brentford.
Chnrch, L.	Upland School, Newbury.
Cowgill, M. D.	Carlton House, Eccles, Lancs.
Galloway, E. M.	Llanberis, Mount Avenue, Ealing.
Greensted, L. A.	34 Park Road, Sittingbourne.
Iles, E. M.	Bishopston Girls' High S., Bristol.
Skinner, F. G.	Private tuition.
Sturt, K.	Cambridge House, Guildford.
[2]Wilson, J.	St. Hilda's, York Road, Exeter.
Brayfield, E. M.	North Mead House, Seacombe.
Codling, E.	City of Durham School for Girls.
Curtis, E. E.	Frobel House, Worthing.
Davies, I. M.	Girls' County School, Welshpool.
Donnelly, A.	43 Westbourne Terrace, Lincoln.
Downs, A.	Portland Street, High S., M'chester.
Ellison, M.	The Cowley Schools, St. Helen's.
Linden, V.	Polytechnic School for Girls, W.
Smith, W. L.	St. Michael's Avenue S., N'hampton.
White, M.	Auckland Ho., The Pk., Nottingham.

[*The following, having each obtained a Certificate at a former examination, passed with distinction in the subjects indicated.*]

Smith, G.	*d.*	Hyde House S., Tollington Park, N.
Veale, E. M.	*mu.*	St. Hilda's, York Road, Exeter.
Jones, S. L.	*s.*	St. David's School, Carnarvon.

NAMES OF CANDIDATES IN THE ABOVE LISTS WHO HAVE PASSED THE ORAL EXAMINATIONS IN FRENCH AND GERMAN.

f = French. *g* = German.

BOYS.

Barton, H. E.	*f. g.*	Stoke Newington Grammar School.
Bienemann, E. C.	*g.*	Private tuition.
Case, C. B.	*f.*	Private tuition.
Clementi-Smith, H. D.	*g.*	St Paul's School, West Kensington.
Daglish, J.	*f.*	Newcastle Modern School.
Davidson, D. W.	*f. g.*	Stoke Newington Grammar School.
Davidson, R. G.	*f. g.*	Stoke Newington Grammar School.
Eichert, F. W.	*g.*	Preliminary Medical College, E.C.
Foster, H. W. A.	*f.*	Henley House S., Mortimer Rd., N.W.
Fürst, A. E.	*g.*	St. John's College, Green Lanes, N.
Hamilton, W. H.	*g.*	Sir Andrew Judde's S., Tonbridge.
Jackson, A. F.	*f.*	Hornsey Grammar School, N.
Jenkinson, H.	*f. g.*	Vernon House School, Brondesbury.
Pellow, C. J.	*f.*	Boys' Coll., and High S., Southampt'u.
Purcell, H. E. L.	*g.*	Private tuition.
Rathfelder, O. E.	*g.*	Wyllies, Cuckfield.
Samson, T. S.	*f. g.*	Stoke Newington Grammar School.
Spaight, F. H. M.	*g.*	Private tuition.
Stevenson, W. E.	*f.*	Newcastle Modern School.
Thierry, G. L. E. J. J.	*f.*	Manor House College, Hastings.

GIRLS.

Baker, W. M.	*f.*	Private tuition.
Barnby, A. J.	*f.*	Arundel House, Scarborough.
Butler, E. K.	*f.*	Hurst Leigh, Southampton.
Cardwell, E. D.	*f. g.*	Hadd & Westwood Coll. S., Scarboro'.
Conery, H.	*f. g.*	Convent of Loreto, Hulme, M'chester.
DeCronenthall, M. J. E.	*f.*	Anglo-French College, Maida Hill.
Duun, D.	*f.*	Clyde Villa, West Hampstead, N.W.
Gibbon, E. M.	*f.*	Priory Ho. S. Clapton Common, N.E.
Howard, S.	*f.*	Private tuition.
Kavanagh, K.	*f. g.*	Convent of Loreto, Hulme, M'chester.
Linskill, D. L.	*f.*	Arundel House, Scarborough.
Linzell, M.	*f.*	Milton Mount College, Gravesend.
Lord, S. A.	*f.*	Private tuition.
Lumaye, R. L.	*f.*	Polytechnic School for Girls, W.
Marr, V. E.	*f. g.*	Trafalgar Square School, Scarboro'.
Millard, L. J.	*f.*	Red Maids' School, Bristol.
Mills, E. A.	*f. g.*	College High School, Huddersfield.
Noakes, G. D.	*f.*	Elm Lodge, Petersham.
Owen, E. G.	*f.*	Private tuition.
Pepper, M. E.	*f. g.*	Trafalgar Square School, Scarboro'.
Pinoli, A. L.	*f.*	Polytechnic School for Girls, W.
Reynolds, C. E.	*f.*	21 Minster Rd., W. Hampstead, N.W.
Sedgwick, H. M. H.	*f. g.*	College High School, Huddersfield.
Suggitt, E. M.	*f.*	Arundel House, Scarborough.
Taylor, L. R. C.	*f.*	Red Maids' School, Bristol.
Whitehouse, L. M.	*f.*	Milton Mount College, Gravesend.
Wolseley, E. H.	*f.*	Larchcroft, Redhill, Surrey.

JUNIOR FORMS EXAMINATION.—PASS LIST, Christmas, 1896.

BOYS.

Adam, D. C.	Queen's College, Streatham Hill.
Adams, J.	St. John's College, Southend.
Agus, G.	Thorne Grammar School.
Allum, C.	Grammar School, Newbury.
Anderson, J.	The Grammar School, Blackpool.
Auster, L. W.	Wintersloe, Moseley, Birmingham.
Atchison, S.	Loughton School, Essex.
Atkins, S.	Collegiate School, Kettering.
Bailey, E.	Redland Grove College, Bristol.
Baines, H.	Commercial High School, Southport.
Baker, C. B.	Ealing Dean College.
Ballard, M.	Eton House School, Hull.
Barker, T.	Read's School, Drax.
Barlow, A.	Collegiate School, Kettering.
Barter, P.	Lancaster College, West Norwood.
Bates, F. H.	Claremont College, Blackpool.
Beaugeard, P. T.	Oakwood House School, Jersey.
Beer, J,	Wellesley College, Nottingham.
Bentley, O.	Private tuition.
Berry, E.	Commercial High S., Southport.
Birch, L.	Hendon Preparatory School.
Bird, R.	Commercial High S., Southport.
Black, T. O.	New Hall College, Sutton Coldfield.
Blackman, J. F.	Langleigh School, Upper Tooting.
Bland, A.	Stanley House, Margate.
Blazer, M.	Commercial High S., Southport.
Bligh, G. W.	Towcester School.
Blomfield, S. T.	Croad's School, King's Lynn.
Booth, W. C.	Furness College, Morecambe.
Bogle, W. T.	Milton College, Ullesthorpe.
Bonas, L.	Belsize School, South Hampstead.
Borrow, C.	Arlington Park College, Chiswick.
Bowater, J.	New Hall College, Sutton Coldfield.
Bowers, E.	Elm Bank School, Nottingham.
Bowrey, H.	Stoke Newington Grammar School.
Bradley, W. D.	Highfield School, Chertsey.
Braggins, C.	Banbury School.
Branigan, W.	Leamington Collegiate School.
Bray, G.	Commercial School, Astley Bridge.
Brazier, F. A.	Towcester School.
Brindley, T. J. P.	Springfield College, Acton Hill.
Brodie, W. H.	Langleigh School, Upper Tooting.
Brooker, A. B.	Farnworth Grammar School, Lancs.
Brookes, F. G.	Spencer House S., Northampton.
Brooks, G.	Belsize School, South Hampstead.
Broomhall, F.	High School, Barnsley.
Brown, E. L.	Mary Street House, Taunton.
Bruce, J.	Stoke Newington Grammar School.
Bruce, R. L.	Stoke Newington Grammar School.
Brymer, J. G.	County S., Bethesda, North Wales.
Buchler, P. H. F.	Dudley House, Lee, S.E.
Bull, H. S.	Stoke Newington Grammar School.
Bullock, H. T.	Dudley House, Lee, S.E.
Burrow, R. G.	Grammar School, Kirkby Lonsdale.
Burston, G. A.	Collegiate School, Bridgwater.
Cable, H.	Ellesmere College, Eastbourne.
Carlton, G. W.	Grammar School, Shoreham.
Carnelly, H.	High School, Barnsley.
Carr, H.	Commercial High School, Southport.
Carter, E. H. W.	Private tuition.
Carter, T.	Banbury School.
Cary, A. A.	Hart House S., Burnham, Somerset.
Castellain, C. M.	Leo House School, Margate.
Champion, K.	St. Loe's School, Amberley.
Chandler, C. G.	Grammar School, Newbury.
Chew, J.	St. Loe's School, Amberley.
Chinery, W. F.	Brunswick House, Maidstone.
Chirgwin, A. M.	Commercial School, Penzance.
Chivers, G.	Commercial School, Penzance.
Church, W. B.	Grammar School, Newbury.
Clark, C.	Oxford House, Brighton.
Clements, E. M.	Grammar School, Shoreham.
Clemow, A. M.	Queen's College, Streatham Hill.
Clibborn, A. S.	Claughton College S., Birkenhead.
Coates, R. S.	Banbury School.
Cock, J. E.	Betton House, Shrewsbury.
Cohen, P.	Tivoli House School, Gravesend.
Coles, C. R.	Winchester House, Redland, Bristol.
Coles, E. G.	The Huish School, Taunton.
Coles, G. S.	St. Austell College, Cornwall.
Collins, H.	Commercial School, Wood Green, N.
Colocott, A.	St. John's College, Southend.
Colson, C.	Milton College, Ullesthorpe.
Cond, A. T.	Wintersloe, Moseley, Birmingham.
Connellan, P. S.	High Park Hall, Ryde.
Cooke, A.	Farnworth Grammar School, Lancs.
Cooper, L. L.	Elm Bank School, Nottingham.
Cory, J.	Towcester School.
Cosford, S. R.	Spencer House School, Northampton.
Cowood, E. C.	High School, Barnsley.
Cousens, E. G.	Read's School, Drax.
Cousin, A.	Apsley House School, Margate.
Cowood, S. I.	High School, Barnsley.
Cox, G.	Stanley House, Margate.
Cox, J. B.	Eton House School, Hull.
Cozens, J.	Collegiate School, Bridgwater.
Crampton, A.	Commercial High School, Southport.
Craze, E. N.	St. Austell College, Cornwall.
Croal, D.	Queen's College, Streatham Hill.
Cringle, R.	Woodgrange House, Forest Gate.
Crisp, F.	Etchingham Park S., Finchley, N.
Cunnington, F. O.	Grove House School, Highgate.
Curry, R. F.	Private tuition.
Cushing, B. M.	Grammar School, Newbury.
Cutts, E. C.	Elm Bank School, Nottingham.
Cutts, T. B.	Elm Bank School, Nottingham.
Dalton, P.	Commercial High S., Southport.
Dalziel, P.	Osborne High S., W. Hartlepool.
Danes, L.	Brunswick House, Maidstone.
Dauncey, M. E.	St. Loe's School, Amberley.
Davis, A. W.	Kingston School, Yeovil.
Dawn, H. G.	Ealing Dean College.
Dawson, P. H.	New Hall College, Sutton Coldfield.
Day, A. W.	Stoke Newington Grammar School.
Day, T. R.	Queen's College, Streatham Hill.
Dewsbury, C.	The Grammar School, Blackpool.
Dickin, T. E.	Betton House, Shrewsbury.
Dodds, W. M.	High School, Corbridge-on-Tyne.
Dommett, R. T.	The Huish School, Taunton.
Doresa, A.	Redland Grove College, Bristol.
Dougherty, V. W.	Twickenham College.
Doughty, H. E.	Combe Lodge, Malvern.
Doumiu, R.	Stoke Newington Grammar School.
Downie, J.	7 Hall Terrace, Gateshead.
Dowse, F.	Eton House School, Hull.
Dowson, C.	Ilfracombe College.
Dunn, J.	Belsize School, South Hampstead.
Durell, A.	Charing Cross School, Jersey.
Durham-Waite, W. E.	Private tuition.
Dyer, F. T.	Collegiate School, Bridgwater.
Easton, L. S.	Sittingbourne College.
Edwards, J. H.	The Huish School, Taunton.
Edwards, O. G.	Highfield School, Chertsey.
Eldridge, J. F.	Leamington Collegiate School.
Ellen, F. H.	Wilsford House School, Devizes.
Ellis, M. E.	Banbury School.
Elvin, R. J.	Oxford House, Brighton.
Epstein, H.	Tivoli House School, Gravesend.
Evans, J. P. J. A.	Springfield College, Acton Hill.
Farley, H.	Loughton School, Essex.
Fawcett, R. W. H.	Oakwood House School, Jersey.
Fenton, J.	The Grammar School, Blackpool.
Fernee, S. H.	Caversham House, Reading.
Finlay, R.	Borden School, Sittingbourne.
Firth, J. B.	Woodgrange House, Forest Gate.
Fish, A. C.	Winchester Ho., Redland, Bristol.
Fothergill, A.	The College, Gildersame.
Fowler, R. M.	Arnold College, Leigh.
Fox, C. B. D.	Stoke Newington Grammar School.
Francis, C.	Ellesmere College, Eastbourne.
Fry, W.	Collegiate School, Bridgwater.
Garducr, A.	Monk Bridge School, York.
Garnett, H. H. N.	Private tuition.
Gascoigne, T.	Mintholme House, Southport.
Gimblett, J. H.	High Park Hall, Ryde.
Ginsberg, A.	Henley House School, Kilburn.
Gluckstein, A.	Tivoli House School, Gravesend.
Godwin, S. V.	St. John's College, Southend.
Goodhew, H. W.	Borden School, Sittingbourne.
Goodland, F.	Highfield School, Chertsey.
Goode, A.	Grammar School, Alvechurch.
Gowing, H. B.	College House S., Clapton Sq., N.E.
Graham, T. W.	Winchester House, Redland, Bristol.
Grieves, T.	Modern School, Newcastle-on-Tyne.
Griffiss, G.	Grammar School, Alvechurch.
Gullick, G. G.	Redland Grove College, Bristol.
Haines, A. R.	Winchester House, Redland, Bristol.
Hambleu, H. J.	Kingston School, Yeovil.
Hamlin, C.	Collegiate School, Bridgwater.
Harbottle, R.	Tynemouth School.
Harman, F. G.	Grammar School, Newbury.
Harvey, D.	Hill Rise House, Richmond.
Harvey, P. D.	Loughton School, Essex.
Harvey, R. B.	Percy Lodge, Trinity Sq., Margate.
Hawes, B. L.	Twickenham College.
Hawley, P.	Leamington Collegiate School.
Hawtin, B. F.	Banbury School.
Hayward, W. J.	Brunswick House, Maidstone.
Heap, E. T.	Abbey House School, Selby.
Heckett, A.	The Woodroughs, Moseley, B'ham.
Henderson, J.	Collegiate School, Kettering.
Hendrick, E. W.	Private tuition.
Henley, W. R.	Grammar School, Shoreham.
Henrard, G. J.	Gresham College, Southsea.
Henry, G.	Southport Modern School.
Henzell, O.	Tynemouth School.
Hepburn, H.	High School, Corbridge-on-Tyne.
Hepburn, J.	High School, Corbridge-on-Tyne.
Hewitt, A. L.	Milton College, Ullesthorpe.
Hewitt, F.	Commercial High School, Southport.
Hibberson, R. W.	The Grammar School, Blackpool.
Hickmott, W.	Brunswick House, Maidstone.
Higgins, J. B.	Spencer College, Wimbledon.
Hill, A. J.	Ellesmere College, Eastbourne.
Hill, E. S.	Winchester House, Redland, Bristol.
Hill, R. H.	St. John's College, Southend.
Hill, R. W. N.	St. Loe's School, Amberley.
Hillier, R. E.	St. Peter's High School, Marlborough.
Hillman, H.	St. Loe's School, Amberley.
Hinrichs, W. H.	Etchingham Park S., Finchley, N.
Hipwell, C. F.	St. Kenelm's College, Cowley.
Hobbs, F.	Leighton House, Great Marlow.
Hobbs, W. E.	Caversham House, Reading.
Hodges, C. E.	St. John's College, Southend.
Hodgson, E. W.	Private tuition.
Hoghton, J. L.	Furness College, Morecambe.
Hoghton, T. D.	Furness College, Morecambe.
Holden, G. C.	Farnworth Grammar School, Lancs.
Holt, A. E.	Monk Bridge School, York.
Honey, L.	Belsize School, S. Hampstead.
Hooper, J.	The College, Gildersome.
Hopkins, R.	St. Loe's School, Amberley.
Horner, A. L.	Winchester House, Redland, Bristol.
Hughes, C.	Queen's College, Streatham Hill.
Hughes, R. J.	County School, Bethesda, N. Wales.
Humphreys, N.	Hart House School, Burnham, Som.
Hunt, M. M.	Apsley House School, Margate.
Hurlston, F.	Leamington Collegiate School.
Hurlston, R. S.	Leamington Collegiate School.
Ingham, H.	Southport Modern School.
Jackson, G. T.	The High School, Brentwood.
Jackson, H. H.	Cambridge House, Wigan.
Jacobs, R. H.	Tivoli House School, Gravesend.
James, E. G.	St. Catherine's Coll., Langland Bay.
Jelfs, W.	Banbury School.
Jennings, A. L.	Brunswick House, Maidstone.
Jones, A. L. L.	St. Catherine's College, Langland Bay.
Jones, E. L.	Richmond Hill School, Richmond.
Jones, J.	County S., Bethesda, North Wales.
Jones, R. S.	Betton House, Shrewshury.
Jones, W. E.	County S., Bethesda, North Wales.
Kelly, D.	The High School, Brentwood.
Kempster, C. C.	Deytheur Grammar School.
Kemsley, G. M.	Loughton School, Essex.
Kerr, P.	Stanley House, Margate.
Kilner, F. M.	Grammar School, Kirkby Lonsdale.
King, M. K.	Grammar School, Newbury.
Kinsey, A. E.	Apsley House School, Margate.
Kinsey, S.	Apsley House School, Margate.
Kirk, G.	Grammar School, Kirkby Lonsdale.
Kirkham, W. H.	New Hall College, Sutton Coldfield.
Knollys, F. R. A. N.	Borden School, Sittingbourne.
Krutwig, F.	Commercial School, Wood Green, N.
Leak, H.	Bank House, Over.
Lamble, W.	Oxenford House School, Jersey.
Lane, H.	Leamington Collegiate School.
Lang, J. E.	116 St. Owen Street, Hereford.
Lavington, N. A. G.	Winchester House, Redland, Bristol.
Law, E.	Springfield College, Acton Hill.
Lawson, E.	Read's School, Drax.
Lea, R.	Commercial High School, Southport.
Lee, F. F.	Stoke Newington Grammar School.
Le Heron, J. F.	Oxenford House School, Jersey.
Leigh, A. J.	Lancaster College, West Norwood.
Leigh, H.	Commercial High S., Southport.
Le Quesue, C. P.	Charing Cross School, Jersey.
Le Sucur, F.	Oxenford House School, Jersey.
Lewis, A. J.	Kingston School, Yeovil.
Lewis, B.	Tivoli House School, Gravesend.
Lewis, E. C.	Woodaby School, Weston-s.-Mare.
Lewis, G. P.	Winchester H., Redland, Bristol.
Lewis, R. P.	Woodaby School, Weston-s.-Mare.
Line, J. P.	Etchingham Park S., Finchley, N.
Linsdell, H. A. W.	The High School, Brentwood.
Little, J. G.	High School, Corbridge-on-Tyne.
Lloyd, C. D.	Deytheur Grammar School.
Lloyd, W. G.	Ascham House School, Bristol.
Loake, N.	Collegiate School, Kettering.
Loe, C. E.	High Park Hall, Ryde.
Long, J. B.	Gresham College, Southsea.
Longden, F. C.	Private tuition.
Lonsdale, C.	Private tuition.
Loriard, C.	St. John's College, Southend.
Loughborough, A. G. R.	Grammar School, Shoreham.
Loverseed, A. W.	Gosberton Hall, Spalding.
Loverseed, H. E.	Gosberton Hall, Spalding.
Loverseed, J. F.	Gosberton Hall, Spalding.
Lucas, E.	Farnworth Grammar S., Lancs.
Luce, G. P.	Oxenford House School, Jersey.
Lyford, J.	Caversham House, Reading.
MacSwiney, B. F.	Highfield School, Rock Ferry.
Margoliouth, H. M.	3 Belgrave Villas, Lee, S.E.
Marples, M. E.	Claughton Coll. S., Birkenhead.
Marston, A. H.	Grammar School, Alvechurch.
Martin, C. S.	West Cliff School, Ramsgate.
Martin, H L.	Ellesmere College, Eastbourne.
Martin, J. L. H.	The Woodroughs, Moseley, B'ham.
Masefield, W. G.	Mintholme House, Southport.
Mason, L. B.	St. Kenelm's College, Cowley.
Matthews, F. W.	The Woodroughs, Moseley, B'ham.
Mauger, P. V.	Oxenford House School, Jersey.
Maw, W. G. C.	Mary Street House, Taunton.
Maynard, J.	High Park Hall, Ryde.
McRobie, A.	Grammar School, Newbury.
Meadows, W. T.	Betton House, Shrewsbury.
Middlefell, T.	Farnworth Grammar S., Lancs.
Middleton, J. E.	The Grammar School, Blackpool.
Miller, F. S.	Loughton School, Essex.
Miller R.	Collegiate School, Kettering.
Minty, A.	Wilsford House School, Devizes.
Mitchell, F. W. G.	High Park Hall, Ryde.
Monkman, F.	Croad's School, King's Lynn.
Montgomery, C. J.	Fairhaven High S., St. Anne's-on-Sea.
Montgomery, R. J.	Fairhaven High S., St. Anne's-on-Sea.
Moody, C. W.	14 Grosvenor Crescent, Scarborough.
Moor, A. E.	Borden School, Sittingbourne.
Moore, F. H.	Grammar School, Newbury.
Moore, H. T.	The Grammar School, Blackpool.
Morell, M.	Tivoli House School, Gravesend.

BOYS, JUNIOR FORMS—*Continued.*

Morris, H. C.	Read's School, Drax.
Morris, T.	Collegiate School, Kettering.
Mould, S.	Betton House, Shrewsbury.
Mountain, W.	St. John's College, Southend.
Moyser, W.	Monk Bridge School, York.
Murray, D.	The Grammar School, Blackpool.
Nairn, G.	Ilfracombe College.
Neate, F. W.	Grammar School, Newbury.
Newton, J. T.	Southport Modern School.
Nias, H. R.	The Woodroughs, Moseley, B'ham.
Nicholls, R. E.	Commercial School, Penzance.
Nixon, H.	The Hollies, Macclesfield.
Nobbs, L. A.	51 Haverstock Hill, N.W.
Norcliffe, J.	The Grammar School, Blackpool.
Norris, N. R.	Farnworth Grammar School, Lancs.
Norris, P. B.	Collegiate School, Bridgwater.
Nutt, N. H.	Ellesmere College, Eastbourne.
Oates, H. J.	Spencer College, Wimbledon.
Oakley, A. L.	The Lodge, Wilton Grove, Taunton.
Ogden, R.	St. Loe's School, Amberley.
Oliver, F.	St. John's College, Southend.
Oliver, F. S.	Tynemouth School.
Oxborrow, A. F	St. John's College, Southend.
Oxford, H. H.	New Cross Collegiate School.
Page, V.	High Park Hall, Ryde.
Paget, J. M.	Loughton School, Essex.
Palk, W. R. K.	Wintersloe, Moseley, Birmingham.
Pantlin, H.	Twickenham College.
Parker, S.	Loughton School, Essex.
Parr, P. H. G.	Mount Radford School, Exeter.
Parrott, L.	Banbury School.
Parry, E.	County S., Bethesda, North Wales.
Parry, R. R.	County S., Bethesda, North Wales.
Parry, W. H.	County S., Bethesda, North Wales.
Partington, C.	Furness College, Morecambe.
Patton, T.	High School, Corbridge-on-Tyne.
Payne, A. C.	Hill Rise House, Richmond.
Payze, A. R.	Grammar School, Newbury.
Pearce, G.	Kenilworth College, Kenilworth.
Pearce, S. E. H.	Brunswick House, Maidstone.
Pearson, F.	Furness College, Morecambe.
Peck, K.	Mintholme House, Southport.
Peers, J.	Fairhaven High S., St. Anne's-on-Sea.
Peppercorn, A. E.	116 St. Owen Street, Hereford.
Percy, F. W.	Mary Street House, Taunton.
Perry, E. J.	Croads School, King's Lynn.
Perrin, E. S.	Hill Rise House, Richmond.
Perry, H.	Stoneyhurst, Buxton.
Pett, W. H.	New Cross Collegiate School.
Phillips, A.	Stanley House, Margate.
Phillips, F.	Leighton House, Great Marlow.
Pickersgill, A. P.	Leamington Collegiate School.
Piggott, A. V.	Arlington Park College, Chiswick.
Pile, M. C.	Grammar School, Newbury.
Piquet, C. J.	Oxenford House, Jersey.
Pocock, G. C.	Queen's College, Streatham Hill.
Pollard, E.	Henley House School, Kilburn.
Pope, H. A.	Springfield College, Acton Hill.
Portlock, P.	Stoke Newington Grammar School.
Potter, W. F.	Stoke Newington Grammar School.
Pring, J.	Redland Grove College, Bristol.
Quiggin, R. G.	Southport Modern School.
Rainer, S. M.	3 Belgrave Villas, Lee.
Randles, E. E.	Betton House, Shrewsbury.
Randles, G.	Betton House, Shrewsbury.
Raskron, C. A.	Thornton House School, Redruth.
Rathbourne, A. J.	The Huish School, Tauuton.
Rawlinson, A. L.	St. John's College, Southend.
Rayner, A.	Stanley House, Margate.
Rea, W.	Stanley House, Margate.
Rebbeck, R. M.	Spencer House School, Northampton.
Reid, W.	Stoke Newington Grammar School.
Renshaw, J. A.	Grammar School Shoreham.
Reynolds, D. W.	Tynemouth School.
Richardson, W. H.	Private tuition.
Richmond, W. T.	College House S., Clapton Sq., N.E.
Rickards, E. E.	Leamington Collegiate School.
Riley, D. E.	Read's School, Drax.
Rimell, G.	Betton House, Shrewsbury.
Rimington, J.	Tynemouth School.
Risbey, F.	St. Loe's School, Amberley.
Rivers, R. C. J.	Stoke Newington Grammar School.
Robathan, A. H.	Combe Lodge, Malvern.
Robinson, H.	Tynemouth School.
Roche, L.	St. John's College, Southend.
Rogers, C. W.	Elm Bank School, Nottingham.
Rogers, F. E. W.	Private tuition.
Rogers, J. L.	St. Catherine's College, Langland Bay.
Rogers, W. H.	Kingston School, Yeovil.
Rolfe, H. J.	Grammar School, Newbury.
Romeril, P. P.	Charing Cross School, Jersey.
Roocroft, J. W.	Cambridge House, Wigan.
Ross, N. J.	St. John's College, Southend.
Rowe, P.	Thornton House School, Redruth.
Rowland, G. M.	Stanley House, Margate.
Ruddock, J. W.	Monk Bridge School, York.
Russell, J. W.	Towcester School.
Russell, R. S.	Caversham House, Reading.
Ruston, T. O.	St. John's College, Southend.
Samman, L.	Banbury School.
Samways, J.	Kinston School, Yeovil.
Sanders, J. E.	St. Kenelm's College, Cowley.
Sanders, R. V.	Wellesley College, Nottingham.
Sanderson, E.	Leamington Collegiate School.
Sansom, F. F.	Langley House, Ashbourne.
Saunders, H. W.	Mary Street House, Taunton.
Schofield, W. A.	Southport Modern School.
Scobie, A.	Wood Grange House, Forest Gate.
Scrivener, F. G.	Mile End House, Newport, Mon.
Service, W. J.	Grammar School, South Shields.
Sewell, R. F.	High School, Corbridge-on-Tyne.
Seymour, L.	Modern School, Newcastle-on-Tyne.
Seymour, L.	Stanley House, Margate.
Sharman, R. P.	Caversham House, Reading.
Shearsmith, C. T.	Eton House School, Hull.
Sheldon, J. G.	New Hall College, Sutton Coldfield.
Shepperd, H. A.	Richmond Hill School, Richmond.
Shrimplin, C. J.	Towcester School.
Shields, W.	Monk Bridge School, York.
Silverstone, H.	Highbury Grammar School, N.
Simpson, W. S.	Spencer House School, Northampton.
Sinclair, J. M.	Leo House School, Margate.
Skiuner, F. G.	New Cross Collegiate School.
Slade, H. G.	149 Beverley Road, Hull.
Smith, H. B. F.	Tynemouth School.
Smith, J. J.	The College, Gildersome.
Smith, L.	St. Loe's School, Amberley.
Smith, S. B.	Banbury School.
Smith, W. H.	Leamington Collegiate School.
Smither, B. J.	Caversham House, Reading.
Smyth, C. D.	St. John's College, Southend.
Southan, C. H.	Grammar School, Alvechurch.
Spencer, H.	Stanley House, Margate.
Spinney, B.	Leamington Collegiate School.
Spooner, L.	College House S., Clapton Sq., N.E.
Spray, F. R.	Commercial School, Penzance.
Spurge, P. W.	Loughton School, Essex.
Stacey, H. J.	Highfield School, Chertsey.
Stanley, G.	The Halve, Trowbridge.
Stanners, R. W.	14 Grosvenor Crescent, Scarborough.
Starr, R. K.	Aston Hall, Prestonbrook.
Stayt, R.	St. Loe's School, Amberley.
Steff, A.	Collegiate School, Kettering.
Stirling, S. W.	Apsley House School, Margate.
Stone, H.	Commercial High School, Southport.
Stratton, A. D.	Hart House School, Burnham, Som.
Street, E. C.	Grammar School, Shoreham.
Stubingtou, H.	West Leigh, Botley.
Sully, R.	Hart House School, Burnham, Som.
Surridge, V.	Oxford House, Brighton.
Swinyard, S.	Stanley House, Margate.
Symes, H. W.	Kingston School, Yoevil.
Szapira, B.	Tivoli House School, Gravesend.
Szapira, S.	Tivoli House School, Gravesend.
Taylor, E. K.	The Grammar School, Blackpool.
Teakle, F.	St. Loe's School, Amberley.
Temlett, P. H.	Collegiate School, Bridgwater.
Testar, S. K.	Arlington Park College, Chiswick.
Thatcher, A. E.	Arlington House, Newport, Mon.
Thomas, R. A.	County S., Bethesda, North Wales.
Thompson, P. T.	Read's School, Drax.
Thomson, A. J. D.	Grove House School, Highgate.
Thornett, L.	Leamington Collegiate School.
Thring, A. S.	Kingston School, Yeovil.
Tillott, J. C.	Redland Grove College, Bristol.
Tocque, F. A. C.	Leo House School, Margate.
Todd, S.	Purcell House, Scarborough.
Tournay, A. G.	Oxenford House School, Jersey.
Toye, H.	Commercial School, Wood Green, N.
Toye, F.	Commercial School, Wood Green, N.
Trachy, J. F.	Oxenford House S., Jersey.
Trapowski, G.	Tivoli House School, Gravesend.
Tregurtha, T. W.	Commercial School, Penzance.
Trenchard, C.	Mary Street House, Taunton.
Trotman, G. B.	Byfield House, Painswick.
Trundle, C.	Stoke Newington Grammar School.
Turle, V. J.	The Lodge, Wilton Grove, Tanuton.
Turner, J. R.	Queen's College, Streatham Hill.
Turner, R. S.	New Hall College, Sutton Coldfield.
Turner, S. H.	Queen's College, Streatham Hill.
Tyler, P. C.	Winchester H., Redland, Bristol.
Viucent, P. J.	Kingston School, Yeovil.
Vines, J.	Ellesmere College, Eastbourne.
Wakely, H. G.	Caversham House, Reading.
Wales, F.	Monk Bridge School, York.
Walker, S. M.	Apsley House School, Margate.
Wall, J. H.	New Hall College, Sutton Coldfield.
Warren, H. E.	St. John's College, Southend.
Watkinson, W. F.	Southport Modern School.
Watson, E. W.	Osborne High S., W. Hartlepool.
Watson, H. B.	Stoke Newington Grammar School.
Webb, T. L.	Mintholme House, Southport.
Weed, G.	Speucer House S., Northampton.
Weddell, H.	Moderu School, Newcastle-on-Tyne.
Weiss, M.	Borden School, Sittingbourne.
Weller, C. B.	St. John's College, Southend.
Westbrook, W.	Grove House School, Highgate.
Westcott, H. J. G.	New Cross Collegiate School.
Wheeler, P. J. H.	Ellesmere College, Eastbourne.
Wheeler, T. W. H.	St. John's College, Southend.
White, G. L.	Grammar School, Shorcham.
White, H. J.	Apsley House School, Margate.
White, J.	Thorne Grammar School.
White, N.	Winchester House, Redland, Bristol.
White, T.	High School, Barusley.
Whitehorn, R.	Tynemouth School.
Wilding, G. A.	Hart House School, Burnham, Som.
Wilkins, W. R.	Southdown College, Eastbourne.
Wilkinson, A. W.	Tynemouth School.
Wilkiuson, E.	High School, Barnsley.
Wilks, H. B.	Bettou House, Shrewsbury.
Willey, G. F.	High School, Barnsley.
Williams, A. E.	Stoke Newington Grammar School.
Williams, A. L.	Milton College, Ullesthorpe.
Williams, F.	Stoke Newington Grammar School.
Williams, M. J.	Commercial School, Penzance.
Williams, T. (No. 1.)	County School, Bethesda, N. Wales.
Williams, T. (No. 2.)	County School, Bethesda, N. Wales.
Williams, T. E.	Couuty School, Bethesda, N. Wales.
Willis, R. C.	Loughton School, Essex.
Willis, R. R.	Grammar School, Newbury.
Wilson, D.	Moderu School, Newcastle-on-Tyne.
Wilson, H. M.	Deytheur Grammar School.
Wilson, S. M.	St. John's College, Southend.
Winget, G. J.	Kingston School, Yeovil.
Winstone, R. C.	Kingston School, Yeovil.
Witt, R.	The Convent, Southampton.
Wood, W. H.	Mary Street House, Taunton.
Woodman, G.	Farnworth Grammar S., Lancs.
Worsley, H. (No. 1.)	Claremont College, Blackpool.
Worsley, H. (No. 2.)	Claremont College, Blackpool.
Wright, J. L.	Spencer House S., Northampton.
Wright, R.	Commercial High School, Southport.
Wright, W.	Southport Modern School.

GIRLS.

Ailman, M. C.	George Green Schools, Poplar.
Ainsworth, E. M.	Glenburn, Market Harborough.
Alder, E. M.	The High School, Tewkesbury.
Allen, E. M.	Harley House School, Hereford.
Alsford, E. M.	Smedmore, Boscombe, Bouruemouth.
Anderson, J. F.	Alexandra College, Shirley.
Andrews, E. E.	Church High School, Gravesend.
Applegate, H. F.	Avon House, Bradford-on-Avon.
Ardill, M.	Convent of Loreto, Manchester.
Armitage, F.	College High School, Huddersfield.
Atherton, J.	Howard College, Bedford.
Austin, E. M.	Church High School, Gravesend.
Bach, A. M.	9 Sea View Terrace, Margate.
Bailey, M.	Ashbourne House, Chepstow.
Bailey, M. E.	Avon House, Bradford-on-Avon.
Baines, G. M.	Brunswick School, Hampstead.
Ballard, A. K.	George Green Schools, Poplar.
Balshaw, F. E.	Commercial School, Astley Bridge.
Barcroft, F. W.	Private tuition.
Barnsley, A. M.	Parkholme, Collegiate Cres., Sheffield.
Baxter, E.	Convent High School, Loughborough.
Bayliss, M. H. E.	Clarendon College, Tufnell Park, N.
Beaven, I.	Avon House, Bradford-on-Avon.
Bennett, A. H.	New College, Southampton.
Bennett, F. V.	Streatham House, Margate.
Benskin, N.	College High School, Huddersfield.
Bentley, B. M. G.	Ivy House Coll. School, Crouch Hill, N.
Berggren, E. C.	Rosemount College, Bath.
Birch, M.	The High School, Wrexham.
Birtwell, G.	Girls School, South Shore, Blackpool.
Bishop, M.	Milton Mount College, Gravesend.
Blackstock, F.	Ashleigh College, Sutton in Ashfield.
Bloomfield, L.	Convent of Loreto, Manchester.
Blundell, L.	Rougemont College, Blackpool.
Bond, M. M.	Private tuition.
Bondfield, D. M.	Helena High School, Burgess Hill.
Bone, R. B.	54 Sutherland Avenue, W.
Bones, B.	40 Stockwell Park Road, S.W.
Booth, A. A. B.	The High School, St. Anne's-on-Sea.
Booty, A.	171 Jerningham Road, New Cross.
Bosworth, D. M.	The High School, Tewkesbury.
Bourne, E. V.	Lynton House School, Margate.
Bourne, M. A.	Orton College, Water Orton.
Bowden, L. M.	Dudley House, Cazenove Road, N.
Boyes, M.	Haddo & Westwood Coll. S., Scarboro'.
Bradbury, B. F.	21 Home Park Villas, Devonport.
Bradburn, M. M.	Grammar School for Girls, Worcester.
Bradford, H. C.	The High School, Yeovil.
Brading, H. M.	Westbourne House, Cowes.
Bray, L. M.	Holyoke House, Penzance.
Brimmell, S.	Glan Dyfi House, Wisbech.
Bristowe, B. A.	Lynton House School, Margate.
Brittain, A. F. S.	Chatwin House School, Darlington.
Broadbent, A.	College High School, Huddersfield.
Brodie, E. J.	Langleigh School, Upper Tooting.
Brown, E.	Sunnyside, London Rd., Portsmouth.
Brownill, L.	Somerville House, Northampton.
Bull, F. M.	Westbourne House, Cowes.
Burgess, D.	College High School, Huddersfield.
Burnup, W. E.	Oakfield House, Newcastle-on-Tyne.
Busbridge, E.	34 Park Road, Sittingbourne.
Bush, J.	Eastville, Moor Oaks, Sheffield.
Bussey, E.	The Ladies' College, Wolverhampton.
Butcher, A.	Auckland Ho., The Pk., Nottingham.
Butcher, E.	Auckland Ho., The Pk., Nottingham.
Butler, M. A.	Westbourne House, Cowes.
Butlin, R. H.	Stanmore House, Weston-s.-Mare.
Buxton, H. A.	Langley House, Ashbourne.
Carroll, A.	Convent of Loreto, Manchester.
Chafer, I. M.	St. George's House, Doncaster.
Chambers, M.	Sherwood School, Woolwich.
Chambers, E. G.	Thorne Road School, South Lambeth.
Chapman, E. M.	Camden School, Newland, Hull.
Chapman, J. I.	Rougemont College, Blackpool.
Cherrett, E. M.	Alexandra College, Shirley.
Cheshire, H. E.	Oxford House, St. Leonards-on-Sea.
Clarke, H.	George Green Schools, Poplar.
Clarke, K. F.	Thorne Road School, South Lambeth.
Clarke, M. A.	Rougemont College, Blackpool.
Clarke, M. O.	Milton Mount College, Gravesend.
Clayden, M.	The Lymes, Sudbury.
Clegg, E.	The Maze, Bournemouth.
Clisby, F. M.	9 Sea View Terrace, Margate.
Cock, M. E.	Fairfield College, Exmouth.
Cole, M. R.	Westbourne House, Cowes.
Colman, E. F.	Helena High School, Burgess Hill.
Coleman, A. E.	Private tuition.

GIRLS, JUNIOR FORMS—*Continued.*

Coleman, E. M.	Private tuition.
Coles, G.	Collegiate Girls S., Spondon, Derby.
Coombe, E. M.	Conyton House, Mutley, Plymouth.
Condrup, A. G. C.	Ivy House Coll. S., Crouch Hill, N.
Cooper, M.	Auckland Ho., The Pk., Nottingham.
Cowl, P.	The Crescent School, Norwich.
Cox, A. E.	High School for Girls, Maidenhead.
Crabtree, H.	Haddo & Westwood Coll. S., Scarboro'.
Craig, M. A.	City of Durham School for Girls.
Cramp, G. A.	Freston House, Windsor.
Crossley, F. W.	Girls' Grammar School, Halifax.
Crews, M.	21 Home Park Villas, Devonport.
Crook, M. E.	Alexandra College, Shirley.
Crowther, L.	High Class School, Morley.
Cullen, A. M. M.	Severn Bank, Shrewsbury.
Culmer, M. A. R.	Norbury, Hartfield Sq., Eastbourne.
Cunliffe, A. G.	Yorkbourue, South Shore, Blackpool.
Cunnington, P. E.	Normanton, Preston Park, Brighton.
Dalton, F. S.	Milton Mount College, Gravesend.
Daniell, E.	George Green Schools, Poplar.
Daniels, E.	Grammar School for Girls, Worcester.
Darlington, E. F.	Severn Bank, Shrewsbury.
Davies, B.	Plas Madoc, Ruabon.
Davies, E. M.	Plas Madoc, Ruabon.
Davies, F. E.	Lynton House School, Margate.
D'Egville, D.	Addiscombe House, Margate.
Denton, D. G.	Private tuition.
Derrick, E. M.	St. Bernard's, Southsea.
Dixon, G.	Calder House School, Seascale.
Dove, F. E.	Oakfield House, Newcastle-on-Tyne.
Dove, I. W.	Oakfield House, Newcastle-on-Tyne.
Dower, D. F.	Elm Lodge, Petersham.
Downing, J.	Glan Dyfi House, Wisbech.
Downs, S. B.	Dorchester Ho. S., Clacton-on-Sea.
Drover, E. S. J.	Sullivan College, Southamptou.
Duffield, L.	Waldron House, Havant.
Eadon, A.	Eastville, Moor Oaks, Sheffield.
Ealls, E. F.	Oakfield House, Newcastle-on-Tyne.
Eastwood, H. E. H.	Girls' Grammar School, Halifax.
Edgar, E. M.	Ellerker College, Richmond Hill.
Edwards, E.	Camden School, Newland, Hull.
Edwards, E.	County School, Bethesda, N. Wales.
Eggleton, A.	Mayfield College, Marlborough.
Elliott, W. E.	Airedale House School, Gravesend.
Ellis, E. E.	Somerville House, Northampton.
Emery, W.	Normanton, Preston Park, Brighton.
Enness, B. E.	Grove House, Braintree.
Evans, K.	St. David's School, Carnarvon.
Evans, L.	Richmond House, Liverpool.
Evans, M.	The High School, Wrexham.
Fairclough, M. E.	Private tuition.
Fairweather, N. M.	Cambridge House, Stroud.
Farey, B.	Towcester School.
Faulkner, K.	Hemdean House, Caversham.
Fear, B. H.	Lynton House School, Margate.
Feather, E. A.	Girls' Grammar School, Halifax.
Felminghan, N.	George Green Schools, Poplar.
Ferguson, E. M.	171 Jerningham Road, New Cross.
Fidler, F.	Auckland Ho., The Pk., Nottingham.
Finn, F. M.	Haddo & Westwood Coll. S., Scarboro'.
Fisher, C. E. R.	Milton Mount College, Gravesend.
Fisher, E. W.	Mary Street House, Tauuton.
Fisk, M.	The High School, Wrexham.
Flatman, F. P.	George Green Schools, Poplar.
Fleming, E.	Howard College, Bedford.
Fletcher, G.	Havelock House, Southsea.
Foley, D.	Richmond House, Liverpool.
Fovargue, E. M.	Norbury, Hartfield Sq., Eastbourne.
Fox, D.	St. George's House, Doncaster.
Francis, L.	136 Brooke Road, Stoke Newington.
Frank, E.	136 Brooke Road, Stoke Newington.
Freeman, M.	Beecholme College, Belper.
Fulker, F.	Boscombe High S., Bournemouth.
Fulljames, E. M.	Addiscombe House, Margate.
Gambles, A.	Cheshunt House, Lincoln.
Gane, E.	Wootton Mount S., Bournemouth.
Gardner, M. E.	Cambridge House, Stroud.
Gaunt, A. B.	Stoneyhurst, Buxton.
Gell, J. H. C.	The High School, Tewkesbury.
George, H. M.	Netherleigh, Blandford.
Gervais, D.	Private tuition.
Gicquel, L. M.	Plaisance Terrace School, Jersey.
Gittins, E. M.	Private tuition.
Gledhill, W.	College High School, Huddersfield.
Godsell, L. E.	Cambridge House, Stroud.
Goldney, C. H. M.	Dorchester Ho. S., Clacton-on-Sea.
Goldsworthy, G. A.	Milford House S., Newport, Mon.
Gooderham, E.	The Crescent School, Norwich.
Gordon, M. A. D.	West Hay School, Rock Ferry.
Goulder, A. L.	St. Maur College, Chepstow.
Graham, M. A.	Cumberland Ho., Bouveric Rd., N.
Grant, N.	Addiscombe High School, Croydon.
Gravenell, I. H.	The High School, Tewkesbury.
Gray, F.	City of Durham School for Girls.
Graydon, M. M.	Midhurst College, Greenwich.
Green, A.	Westonmere, Newland, Lincoln.
Greeu, E. A.	21 Home Park Villas, Devonport.
Green, H. T.	Avon House, Bradford-on-Avon.
Greenwood, A.	Moravian School, Bradford.
Greenwood, W. P.	Langleigh School, Upper Tooting.
Groves, M.	Holyoke House, Penzance.
Grundy G.	Orton College, Water Orton.
Guy, E. F.	Wandsworth High School.
Hadland, M.	Somerville House, Northampton.
Haider, M. K. M.	Clarendon College, Tufnell Park, N.
Haigh, A. C.	Abbey House School, Selby.
Hall, F.	Auckland Ho., The Pk., Nottingham.
Hall, N.	Richmond House, Liverpool.
Hanger, E. F.	Smedmore, Boscombe, Bournem'th.
Hargrave, F.	College High School, Huddersfield.
Hargreaves, M.	Commercial School, Astley Bridge.
Harraway, M. J.	Verecroft, Devizes.
Harris, G. H.	Pendeen College, Mumbles.
Harris, L.	Tivoli House School, Gravesend.
Harrison, A.	George Green Schools, Poplar.
Harrison, C. S.	St. Peter's High S., Marlborough.
Hartley, E. M.	High Class School, Morley.
Harvey, W.	Eastholme, Cottingham, Hull.
Hatcher, M.	Mary Street House, Taunton.
Harvey, W. M.	Oxford House, St. Leonards-on-Sea.
Hawkins, D.	Hemdean House, Caversham.
Hawkins, M.	Cambridge House, Stroud.
Hazell, E. M.	Milford House School, Newport, Mon.
Headley, A. D.	The Woodroughs, Moseley, B'ham.
Heffill, F. D.	Bank House, Over.
Hellier, E. L.	St. Margaret's, Richmond Rd., Cardiff
Herring, E. Le S.	Private tuition.
Hibbs, E. H.	Boscombe High S., Bournemouth.
Hicks, F. S.	Stamford Hill and Clapton High S.
Hickson, E. E.	Towcester School.
Hiley, A. M.	St. Maur College, Chepstow.
Hinings, E.	The Ladies' College, Wolverhampton.
Hiscock, M. C.	Alexandra College, Shirley.
Hodson, D. P.	Addiscombe High School, Croydon.
Hodson, N. E.	Addiscombe High School, Croydon.
Hoffmeyer, A. A.	Reigate Villa, Sutton, Surrey.
Holland, E. E.	Stratford Abbey College, Stroud.
Holt, L.	Auckland Ho., The Pk., Nottingham.
Holt, L.	The High School, Wrexham.
Hone, B.	Severn Bank, Shrewsbury.
Hook, M.	Convent High S., Loughborough.
Horrocks, A. B.	Commercial School, Astley Bridge.
Horsfall, M. G.	Private tuition.
Hough, E.	St. George's House, Doncaster.
House, N. M.	Alexandra College, Shirley.
Howell, C. I. M.	Mile End House, Newport, Mon.
Howell, E. K.	The High School, Yeovil.
Howell, M.	The High School, Yeovil.
Howell, M. L.	The High School, Tewkesbury.
Hudson, K. M.	Milford House School, Newport, Mon.
Hughes, A.	St. David's School, Carnarvon.
Hunt, E.	Verecroft, Devizes.
Hunter, E.	Oakfield House, Newcastle-on-Tyne.
Huxley, E. E.	Ellesmere House, Whitchurch.
Jackson, E.	St. George's House, Doncaster.
Jarman, M.	Towcester School.
Jeffery, A. E. M.	Oakfield House, Newcastle-on-Tyne.
Jenkins, N.	Edgehill House, Bodmin.
Jennings, M. K.	The Lymes, Sudbury.
Jillings, M.	Private tuition.
Johns, V. H.	23 Valletort Rd., Stoke, Devonport.
Johnson, L. J.	High Class School, Morley.
Johnston, L.	Milton Mount College, Gravesend.
Jones, G.	Richmond House, Liverpool.
Jones, G. E.	St. Margaret's, Richmnd. Rd., Cardiff.
Jones, H. M.	Avon House, Bradford-on-Avon.
Jones, N.	Oak Villa, Grosvenor Rd., Wrexham.
Jones, S.	Girls' S., South Shore, Blackpool.
Joy, A. E. A.	The Convent, The Avenue, S'hampton.
Joyce, H. G.	Private tuition.
Keeling, M. I.	Orton College, Water Orton.
Kelly, E. C.	Plas Madoc, Ruabon.
Kenyon, L. N.	Orton College, Water Orton.
Kerry, W. M.	Private tuition.
Kewley, M. S.	Private tuition.
Kewley, T. L.	Private tuition.
Kiddle, O.	Stoneyhurst, Buxton.
King, M.	Lynton House School, Margate.
Kinsey, D.	Richmond House, Liverpool.
Kirstein, G. K.	George Green Schools, Poplar.
Kitteringham, M. J.	The Maze, Bournemouth.
Knapton, D. M.	Smedmore, Boscombe, Bournemouth
Knight, F. G.	Tentercroft School, Lincoln.
Langdon, C.	Haldon View, St. David's Hill, Exeter.
Large, F. M.	Grove House, Braintree.
Latham, G.	Camden School, Newland, Hull.
Law, M. A.	Girls' Grammar School, Halifax.
Lawson, L.	The Convent, The Avenue, S'hampton
Laycock, M.	Hartfell, Birkdale, Southport.
Lee, E. J.	Milton Mount College, Gravesend.
Lee, E. J.	Lynton House School, Margate.
Lee, E. M.	Severn Bank, Shrewsbury.
Leibovitch, R.	Tivoli House School, Gravesend.
Leigh, M.	Stoneyhurst, Buxtou.
Lewis, E.	County S., Bethesda, North Wales.
Lillywhite, E.	Stanmore House, Richmond.
Livock, A. M.	Church High School, Gravesend.
Lockley, B. A.	Private tuition.
Lockley, F. M.	Private tuition.
Loft, A. L.	Church High School, Gravesend.
Lord, E.	The High School, St. Anne's-on-Sea.
Lord, N. M.	Girls' School, South Shore, Blackpool.
Loveless, D. A.	St. Margaret's, Richmond Rd., Cardiff
Lovell, E. E.	Herne Bay College.
Lowdon, A.	City of Durham School for Girls.
Lowes, A. L.	City of Durham School for Girls.
Lucas, L. J.	Vauxhall School, Jersey.
Ludford, E. B.	Church High School, Gravesend.
Luffman, M. E.	The High School, Yeovil.
Lyons, B.	Hamburg House, Edgbaston.
Macintosh, M. L. M.	Westwood College, Ramsgate.
MacKenzie, N.	Girls' Grammar School, Halifax.
Maguire, A.	Convent of Loreto, Manchester.
Makepeace, C. M.	Netherleigh, Blandford.
Mallet, H.	Pembroke House School, Jersey.
Mandell, E. G.	Oakfield House, Newcastle-on-Tyne.
Mansell, G. E.	Chestnut House, Lincoln.
Marks, A. M. V.	St. Margaret's, Richmond Rd., Cardiff
Martin, C.	Richmond House, Liverpool.
Martin, E. M.	The Lymes, Sudbury.
Mason, A. E.	Freston House, Windsor.
Mason, R.	Beecholme College, Belper.
Mattick, E. H.	Avon House, Bradford-on-Avon.
Mawson, A.	Meadowlands, Ashton-on-Mersey.
Mawson, N.	Meadowlands, Ashton-on-Mersey.
May, E.	Havelock House, Southsea.
McCord, J.	Milford House S., Newport, Mon.
McLaren, H. J.	Woodhouse Hall Seminary, Leeds.
Meek, E. I.	St. Mary's School, Whitchurch.
Merrell, M. E.	The High School, Tewkesbury.
Miller, C. M.	Freston House, Windsor.
Mills, D. C.	Hamburg House, Edgbaston.
Milman, N.	St. George's House, Doncaster.
Minter, A. M.	Creswell House, Westgate-on-Sea.
Maddison, M. D.	Chestnut House, Lincoln.
Molyneux, J. R.	St. Margaret's, Richmond Rd. Cardiff.
Molyneux, L.	The Convent, The Av., Southampton.
Moody, M. L.	The High School, Tewkesbury.
Moon, M. R.	New College, Southampton.
Moon, W. M.	Milton Mount College, Gravesend.
Moore, A.	St. David's School, Carnarvon.
Morgan, F. B.	Mile End House, Newport, Mon.
Morgan, F. L.	Normanton, Preston Pk., Brighton.
Morell, E.	Tivoli House School, Gravesend.
Morris, E. M.	Grammar School for Girls, Worcester.
Moses, A. K.	Carlton House School, Plymouth.
Moss, A. M.	The High School, St. Anne's-on-Sea.
May, E.	Norbury, Hartfield Sq., Eastbourne.
Muirhead, E. M.	The Old Hall, Newport, Salop.
Mumford, V. G.	Stamford Hill & Clapton High School.
Mundle, E. D.	Milton Mount College, Gravesend.
Mundy, D.	Beecholme College, Belper.
Murray, E. A.	Sunnyside, Cheriton Rd., Folkestone.
Myrtle, G. A.	Stoneyhurst, Buxton.
Naylor, A. M.	George Green Schools, Poplar.
Neate, I. G.	Private tuition.
Need, E. M.	Fonthill College, Great Malvern.
Nisbet, E.	Couvent of Loreto, Manchester.
North, E.	Hemdean House, Caversham.
Norton, D. E.	Rosemouut College, Bath.
Nutt, M. E.	Freston House, Windsor.
Oberdorfer, A. A.	West Didsbury College, Lancashire.
O'Connor, B.	Convent of Loreto, Manchester.
Oldfield, L.	Hanover House School, Buxton.
Oliver, J. E.	Milford House S., Newport, Mon.
O'Neill, G. M. T.	North Mead House, Seacombe.
Orme, D.	The Ladies' Coll., Wolverhampton.
Paget, W. L.	Mile End House, Newport, Mon.
Palmer, A.	Auckland Ho., The Pk., Nottingham.
Palmer, C. J.	City of Durham School for Girls.
Paramor, E. J.	Addiscombe House, Margate.
Parker, N.	Auckland Ho., The Pk., Nottingham.
Parry, M.	The High School, Wrexham.
Payn, H. S.	Plaisance Terrace School, Jersey.
Payne, D. B.	Creswell House, Westgate-on-Sea.
Payne, D. V.	Sullivan College, Southampton.
Pearce, C. G.	Grammar S. for Girls, Worcester.
Pearce, E. A.	West Didsbury College, Lancs.
Pellow, G. J.	The Convent, The Avenue, S'hampton.
Perkins, A. M.	Milton Mount College, Gravesend.
Perkins, J.	St. Maur College, Chepstow.
Perry, F.	Stoneyhurst, Buxton.
Perry, H. A.	The Maze, Bournemouth.
Pether, H. E.	Waldron House, Havant.
Petterson, A.	Sherwood School, Woolwich.
Pharo, E. W.	Brunswick House, Kingston.
Phillips, G. M.	George Green Schools, Poplar.
Pickwell, K.	Westonmere, Newland, Lincoln.
Pike, E. M.	21 Home Park Villas, Devonport.
Pike, W. E.	21 Home Park Villas, Devonport.
Plant, A. B.	Stoneyhurst, Buxton.
Playsted, D. M.	Private tuition.
Pooley, M.	Hanover House School, Buxton.
Poppleton, C.	Tentercroft School, Lincoln.
Porritt, H.	College High School, Huddersfield.
Powell, E. R.	15 St. Mildred's Road, Lee, S.E.
Powell, S. M.	Severn Bank, Shrewsbury.
Pritchard, M. I.	County School, Bethesda, N. Wales.
Probyn, F. D.	Babington House, Eltham.
Radford, S.	Beecholme College, Belper.
Railton, B. L.	Haddo & Westwood Coll. S., Scarboro'.
Randles, F. M.	Severn Bank, Shrewsbury.
Redshaw, D. M.	Milton Mount College, Gravesend.
Rhodes, E.	Eastholme, Cottingham, Hull.
Richardson, M.	44 Shakespeare Street, Nottingham.
Richardson, M.	The Halve, Trowbridge.
Rickett, F.	Private tuition.
Riddiough, M.	Girls' High School, Colne.
Robbins, C.	Glan Dyfi House, Wisbech.
Robbins, E. M.	Carden School, Peckham Rye.
Robbins, H.	St. John's College, Brixton.
Roberts, E.	County School, Bethesda, N. Wales.
Roberts, K.	St. David's School, Carnarvon.
Robertsou-Shersby, M. M. C.	Private tuition.
Robinson, B.	Hemdean House, Caversham.
Robinson, C.	Haddo & Westwood Coll. S., Scarboro'.
Robinson, N. M.	Severn Bank, Shrewsbury.
Rogers, C. M.	Alexandra College, Shirley.
Ronald, A. J.	Grove House, Braintree.
Rose, A.	Tentercroft School, Lincoln.
Rowe, E. M.	Coryton House, Mutley, Plymouth.
Rowland, E. A.	Sullivan College, Southampton.
Rounce, M. G.	Eastholme School, Lowestoft.
Rudman, E.	Avon House, Bradford-on-Avon.
Rutland, F. O. E.	Westbourne House, Cowes.
Ryan, M.	Convent of Loreto, Manchester.
Salisbury, R.	Ascham House S., Clifton, Bristol.
Sander, R. D.	Clarence College, Wood Green.
Sawtell, S. M.	The High School, Yeovil.
Saxon, B.	Glenville, Fairfield, Manchester.
Scott, A. M.	Westbourne House, Cowes.
Scott, M.	Haldon View, St. David's Hill, Exeter.
Seagar, G. H.	George Green Schools, Poplar.
Share, A. M.	Langleigh School, Upper Tooting.
Sharman, E. M.	Somerville House, Northampton.
Sharples, A.	Rougemont College, Blackpool.
Shattock, A. M.	Hemdean House, Caversham.
Shufflebotham, A. M.	Private tuition.
Silvester, H. A.	Airedale House School, Gravesend.
Simpkin, E.	Butterley Car Coll., Ripley, Derby.
Slater, L. M.	Parkholme, Collegiate Cresc. Sheffield

GIRLS, JUNIOR FORMS—*Continued.*

Slingsby, L. M.	Egerton Ho., Radcliffe, Manchester.
Slocombe, K.	College High School, Huddersfield.
Smailes, M.	College High School, Huddersfield.
Smith, E.	High Class School, Morley.
Smith, E. F.	George Green Schools, Poplar.
Smith, E. M.	City of Durham School for Girls.
Smith, F. E.	44 Shakespeare Street, Nottingham.
Smith, F. M.	Ellerker College, Richmond Hill.
Smith, M. L.	Normanton, Preston Park, Brighton.
Smith, O. M.	Clarence College, Wood Green.
Sparks, B. M.	Avon House, Bradford-on-Avon.
Sparks, H. A.	Avon House, Bradford-on-Avon.
Spencer, H. E.	Abbey House School, Selby.
Streeten, D. H.	Boscombe High S., Bournemouth.
Stevens, E.	New College, Southampton.
Stevens, F.	New College, Southampton.
Stevens, L.	New College, Southampton.
Stevensons, A.	Collegiate Girls' S., Spondon, Derby.
Stewart, B. M.	Private tuition.
Stockwell, M.	High Class School, Morley.
Stott, M.	St. George's House, Doncaster.
Stronts, B.	Sittingbourne College.
Swale, A. J.	Haddo&WestwoodColl.S.,Scarboro'.
Swiss, E. M.	23 Valletort Rd., Stoke, Devonport.
Taylor, E.	Meadowlands, Ashton-on-Mersey.
Terry, N.	Hazeldene Girls' S., Droitwich.
Tesseyman, D. M.	High Class School, Morley.
Timms, D.	Sherwood School, Woolwich.
Tinkler, M. F.	Milton Mount College, Gravesend.
Thomas, M. A. S.	TheLadies'College, Wolverhampton.
Thomas, N. K.	Private tuition.
Thomas, W.	Sherwood School, Woolwich.
Thompson, E. C.	St. Peter's High S., Marlborough.
Thornton, L.	College High School, Huddersfield.
Thunder, A.	Convent of Loreto, Manchester.
Todd, D.	The High School, St. Anne's-on-Sea.
Todd, E.	Purcell House, Scarborough.
Tonge, M. A.	Sittingbourne College.
Tongue, M. E.	Crofton Ho., Finborough Rd., S.W.
Townend, J. E.	Chatwin House School, Darlington.
Treleaven, F. M.	Edgehill House, Bodmin.
Turner, B. J.	Commercial School, Astley Bridge.
Turner, D. E.	Freston House, Windsor.
Turner, W. G.	Harley House School, Hereford.
Varley, H.	College High School, Huddersfield.
Venn, F.	The High School, Wrexham.
Vicars, L.	Private tuition.
Vincent, H. M.	The High School, Yeovil.
Walker, M. H.	Girls' S., South Shore, Blackpool.
Wall, M.	Hazeldene Girls' School, Droitwich.
Wallace, K.	College High School, Huddersfield.
Walling, G.	Towcester School.
Walsh, A. M.	Girls' Grammar School, Halifax.
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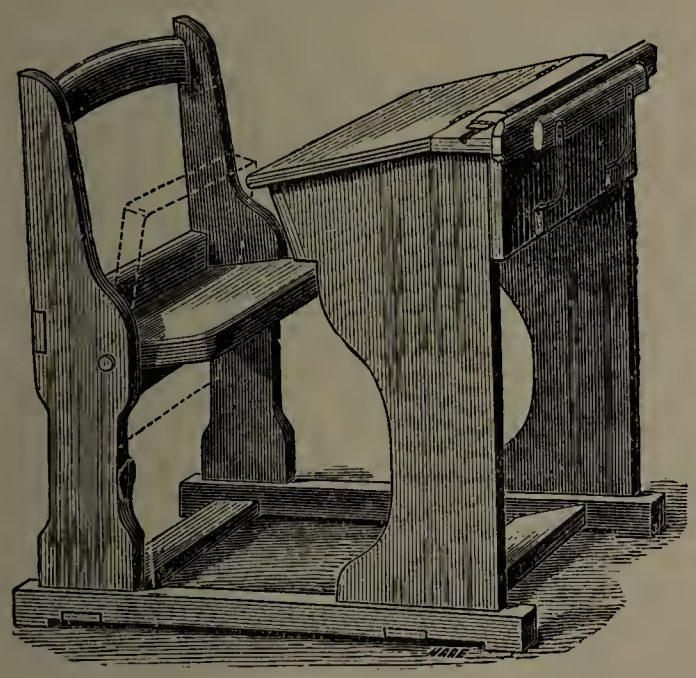

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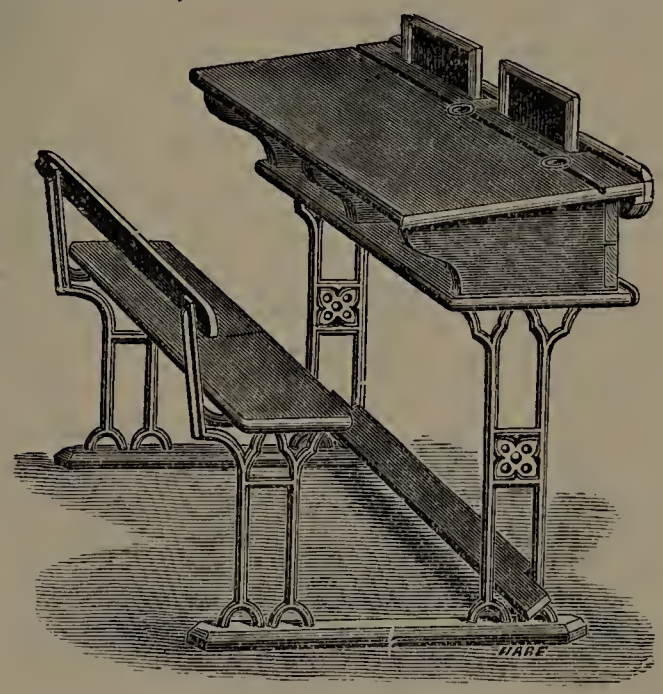

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AT LONDON MATRICULATION,
JANUARY, 1897,

139

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Annus Mirabilis.

The Sexagesimal Year of Victoria the Good bids fair to be a year of great foundations and new departures. There is ground for hope that education will fare as well as any other national interest, by public and private benefactions, in the year of grace 1897. It would be too much to expect that all our reasonable anticipations should be verified before next Christmas; but, at any rate, there is a fair prospect of something like an Annus Mirabilis for the Universities and schools of this country. We should be glad to think that the future record would begin with the reconstitution of London University—that, by virtue of an Act passed in the present session of Parliament, the simple function of examination in Burlington Gardens might be supplemented, before the close of the century, by faculties of learning, by academic study both before and after graduation, by the *status pupillaris*, by public exercises and systematic research, and by all that goes to make a complete University. We certainly trust that the Statutory Commission will be set up this year. Slight facilities from the Government, steady persistence from the promoters and supporters of the Bill, would suffice to put the machinery in motion. Everything else would follow from the disinterested labour of the Commissioners, from the loyal co-operation of the graduates, from the zeal of the constituent colleges, from the inevitable public grant, from the private munificence which could not fail to flow from all directions into this new reservoir of benevolent endowment. We cannot believe that the Government will repeat the mistake of last year, and delay the London University Bill, even in the House of Lords, to a period so late in the session that the effort to pass it through the Commons is doomed to failure beforehand. The object is so important, the exertion necessary to accomplish it is by comparison so small, that Ministers would not be consulting their own reputation if they failed to realize this magnificent educational idea.

Apart from the reconstitution of the University of London, the year 1897 will probably witness the virtual creation of a new University in Ireland—a Catholic University, destined to be captured by the perfervid Gael, and to show how much, or how little, can be done for the extension of positive knowledge by Celtic energy and the Celtic mood. It will witness the establishment of a Birmingham University College, if not of a Midland University, from which we shall learn in a few years, as we are learning from the Universities of the great Northern centres, how far the humaner letters, the cult of language, literature, history, and philosophy, can be developed or sustained amidst the industrial populations of a commercial country in a keenly technical age. It will witness the formal endowment by the State of a dual system of elementary education—an apparently retrograde step, perpetuating divisions, distinctions, and slurs, yet in any case a fresh endowment of education.

Of the many minor schemes and funds for the establishment or better endowment of colleges and schools, the new and important developments in Wales, the reinforced vigour of the Scottish Universities, the incorporation of Dundee College with St. Andrews, all of which seem likely to come to a head in the year of the "Diamond Jubilee," we need not speak with much particularity. The list is a long one; and the aggregate of educational effort and zeal displayed at the present moment, in every part of the United Kingdom, is in excess of any similar display since the age of the Tudors.

There remains the whole field of possible achievement by the Government, through legislative or administrative action, tending towards the reorganization of secondary education. There is no need to enumerate the various possibilities of the immediate future which have been discussed in these columns with sufficient iteration for many months past. It has still to be seen whether any practical result will follow from the suggestion of Lord Playfair and others—that the national Museum at South Kensington should be completed at last, or from the representations of Professor Rücker and others in favour of a National Physical Laboratory. These are the natural and commendable efforts of the friends of education to make the most of a golden and certainly unique opportunity. But, without taking account of anything so indefinite as a suggestion, there will be quite enough in the record of accomplished facts to distinguish 1897 as a year of educational wonders.

Proofs of Faith.

A writer in the *Journal of Education* for February, under the heading "Wanted—a Faith," makes a sweeping and bitter attack upon all educational societies and agencies, and complains that the true

faith of the teacher is lost in the political dust of administrative reform. Nothing could be more fallacious. Signs of the realization of responsibilities, and of the belief of teachers in the importance of their work, are abundant everywhere. It may be that we have not a Pestalozzi among us now, but at any rate there are thousands of teachers nowadays who have caught something of his fire. Fifty years ago there were masters and mistresses whose only duties were to set tasks, listen to the repetition of the same, punish for failure to learn, and generally to adopt restrictive and punitive measures. How great is the change may be gathered from this fact alone—that we can use the word "teacher" without at once calling up the idea of a Sunday school. The difference is fundamental. The child is not looked upon as an incarnation of original sin, whose only salvation lies in frequent stripes. To the teacher of to-day the child is a being endowed with individual character and with individual possibilities. Each trait of its character, each factor of its possibilities, has to be studied and developed. The increase of knowledge brings the increase of responsibility. "Spare the rod and spoil the child" has been replaced by "Study the child, and give it the moral and intellectual stimulus and guidance that it needs." And for this task, tenfold more difficult than the task of hearing lessons and wielding the cane, teachers are with untiring patience qualifying themselves. We say unhesitatingly that never before in the history of the world did teaching demand such high qualities and such noble self-devotion as it does to-day. And never before have teachers more nobly tried to fit themselves for their duties.

The writer of the article we refer to, Mr. Karl Delisle, goes on to attack in detail each educational body. We do not deny a certain cleverness, and a certain truth, in some of his strictures. It may be that there are societies which need a fresh awakening if their utility is to continue. But what, for instance, of the Teachers' Guild and the College of Preceptors? There are thousands of men and women who have been aided and strengthened in their work by what these two societies have done. That each can do more in the future than has been done in the past is obviously true, and will, no doubt, be proved. There may be some little truth in the statement that some of the public schools are bound by their traditions, and cannot march freely with the times. But in private schools it is otherwise. In these, again and again, experiments are tried, sometimes ending in failure, it is true; but always leading towards a fuller knowledge and a better method.

The growth of training colleges, the formation of societies for encouraging discussion and spreading information on educational matters, the anxiety of teachers to increase their knowledge and prove themselves worthy of their opportunities—these a sufficient answer to Mr. Delisle's cynical attack.

NOTES.

As a pendant to one of our articles last month, it may be interesting to our readers to learn what other countries have done in the way of providing special schools for abnormal or weak-minded children. It would seem that Germany was the first to show the way in this direction. It is just eighty years since attention was called to the subject, and soon after a school was built for this purpose at Salzburg. In the German Empire there are now some fifty such establishments, chiefly supported by municipal authorities. The school at Elberfeld is recognised as a model for others; and here, we are informed, the most satisfactory results have been obtained. In the United States of America Mr. W. S. Monroe has calculated that 416 out of every 100,000 children in the State elementary schools are abnormal; and in that country there are now 28 schools, containing over 6,000 weak-minded children. England has not stood quite still in the matter. Experiments have been made, sometimes by private charity and sometimes by the larger Boards; but it is quite time that the question obtained more adequate treatment.

A CONTEMPORARY has rescued the following advertisement from the columns of a local paper :—

> TRAVELLER (Male or Female) wanted, as Pupil Canvasser. Ladies' School. Liberal Commission.

If competition is assuming such acute proportions that methods of this kind are becoming necessary in order that a school may live, then, indeed, is it high time that we had some direct and stringent control. But we prefer to think that the proprietor of this particular school has mistaken his (or her) vocation, and we call attention to the matter because we are sure that the general sense of the profession would be against the employment of such devices. It is only by an expression of public opinion that the evil can be stopped. Other cases of what we must deem unprofessional advertisement are unfortunately not wanting, and will occur to all travellers by rail, as well as to many parents who receive scholastic circulars.

A CORRESPONDENT writes:—"It is an interesting example of the difference between opinion and practice to note how the Assistant-Masters' Association has constantly passed resolutions in favour of the training of teachers, and how few individual members of that body avail themselves of the opportunities given in Bloomsbury Square. Now that a single course of lectures may be taken, the plea of want of time will not stand One evil of the elementary training college system is that the trained master is liable to think himself complete, and to eschew the pursuit of further knowledge, but it has never been urged against secondary teachers as a body that they are unwilling to learn." We see that the chairman of the Association is one of Dr. Findlay's students. Perhaps he is there in his representative character, and assistant-masters are content to support training vicariously.

MODERN Language Holiday Courses are on the increase. We have received notices of four such, two in Germany and two in France. Their utility, both in making language study more real and in helping to establish friendly relations with our Continental neighbours, cannot well be over-estimated. The committee which was responsible for the management of the Caen Course last summer has now amalgamated with the Teachers' Guild, and announces courses at Caen and at Tours, both beginning on August 2. Inquiries should be addressed to the General Secretary of the Teachers' Guild. The Jena Course, which has become associated with the name of Dr. Rein, though originated by Dr. Findlay, begins on the same date, and offers a very interesting list of pedagogic lectures in addition to the language course. Marburg-on-the-Lahn comes before us this

year with a three weeks' course in both French and German, beginning on July 5.

"How to Learn a Language by Letter-Writing" is the title of an article in the *Review of Reviews* for January, a copy of which has been forwarded to us, together with letters from Sir John Gorst and Mr. Vecqueray, of Rugby, approving the scheme. To clear the ground it is necessary to point out that the title is misleading, and that the scheme can only refer to students with some considerable knowledge. Teachers who approve are invited to send to Mr. Stead the names of boys and girls willing to be put into correspondence with French boys and girls. That this correspondence may lead to the interchange of visits and to the formation of friendships, and thus to the increase of international amity, is Mr. Stead's hope. Mr. Vecqueray is not enthusiastic, because the scheme, he says, has been tried before, and with only ephemeral success; but he sends in the names of fourteen Rugby boys. The proposal comes from M. Micille, of Draguignan, who has secured the co-operation of the editor of the *Revue Universitaire*. This paper will form a ready means of communication, as it circulates widely in secondary schools in France.

Fortune is a capricious jade, and never more capricious than when she distributes her unequal favours in the encouragement and endowment of learning. One day we hear of a fund of ten thousand pounds for the duplication of a professorship in a subject already well provided for, and on the next day we are told that the only English Lecturer in an ancient University is assured, after long and urgent efforts, of less than the weekly wage of a poor mechanic. It seems that Professor Skeat, to whose exertions and liberality the University of Cambridge owes the institution of the Lectureship in English, is now relieved from all liability arising out of his guarantee that the minimum stipend of the lecturer should amount to £50 per annum. Donations to the lectureship fund made in the course of last year, including a hundred guineas from the Drapers' Company of London, and £10 each from Lord Rosebery and Lord Crewe, have brought the endowment fund up to a sufficient amount to produce a yearly stipend of £50. Prodigious!

SUMMARY.

THE MONTH.

The first of the Education Bills promised at the beginning of the Session, intended to assist public elementary day schools not provided for by School Boards, has advanced as far as the Committee stage. Clause 1 is as follows:—

(1) For aiding voluntary schools there shall be annually paid out of moneys provided by Parliament an aid grant, not exceeding in the aggregate 5s. per scholar, for the whole number of scholars in those schools. (2) The aid grant shall be distributed by the Education Department to such voluntary schools, and in such manner and amounts, as the Department think best for the purpose of helping necessitous schools and increasing the efficiency, due regard being had to the maintenance of voluntary subscriptions. (3) If associations of schools are constituted in such manner, in such areas, and with such governing bodies representative of the managers as are approved by the Education Department, there shall be allotted to each association while so approved:—(*a*) A share of the aid grant, to be computed according to the number of scholars in the schools of the association at the rate of 5s. per scholar, or, if the Department fix different rates for town and country schools respectively (which they are hereby empowered to do), then at those rates; and (*b*) a corresponding share of any sum which may be available out of the grant after distribution has been made to unassociated schools. (4) The share so allotted to each such association shall be distributed as aforesaid by the Education Department after consulting the governing body of the association, and in accordance with any scheme prepared by that body which the Department for the time being approve. (5) The Education Department may exclude a school from any share of the aid grant which it might otherwise receive, if, in the opinion of the Department, it unreasonably refuses or fails to join such an association, but the refusal or failure shall not be deemed unreasonable if the majority of the schools in the association belong to a religious denomination to which the school in question does not itself belong. (6) The Education Department may require as a condition of a school receiving a share of the aid grant that the accounts of the receipts and expenditure of the school shall be annually audited in accordance with the regulations of the Department. (7) The decision of the Education Department upon any question relating to the distribution or allotment of the aid grant, including the question whether an association is or is not in conformity with this Act, and whether a school is a town or a country school, shall be final.

Clause 2 simply repeals the 17s. 6d. limit in all schools in England and Wales. Clause 3 exempts voluntary schools from rates. Clause 4 defines a voluntary school as "a public elementary day school not provided for by a School Board"; and states that "any reference to the number of scholars in schools means the number of scholars in average attendance as computed by the Education Department."

Sir Joshua Fitch contributed to the February number of the *Nineteenth Century* a forcible plea for the reconstitution of the London University. After considering the two main obstacles to the early settlement of this important national question—the controversy about the relation of religious bodies to the University, and the objections of the graduates who consider their present privileges to be in danger—Sir Joshua concludes as follows:—

Neither of these obstacles ought to seem serious to a Government with a large majority, a resolute will, and a clear purpose. The problem before the Statutory Commission is undoubtedly intricate and difficult, but it is not insoluble. The Royal Commission has provided the needful facts and suggestions, and in the hands of the experts whom the Government proposes to enlist, under the skilful and experienced guidance of Lord Davey, such statutes and regulations as will be satisfactory both to the parties most nearly interested and to the whole nation will probably be framed. A more interesting task, or one involving graver and more permanent consequences, has seldom been entrusted to an advisory body. They will seek to bring into harmonious and mutually helpful relations the various scattered agencies concerned in the higher and professional education of London. They will try to retain the spirit of all that is best in the academic traditions of the older Universities, and will at the same time feel free to take a large and generous view of the new intellectual requirements and the changed conditions of our time. They will recognise that, while it is the first business of a University to foster *literæ humaniores*—the studies which help to make the accomplished and capable man—a second duty is to ennoble and liberalize the professions. Hence they will not leave outside their purview the institutions which are training for a life's work the lawyer, the physician, the engineer, the schoolmaster, and the electrician. They will find means of recognizing and assisting so much of the work done under the name of "University Extension" or evening classes as shall be proved to possess a really disciplinal and academic character. They will have regard to the organization of "post-graduate" studies, and to the encouragement of research and advanced learning by means other than examinations. They will, it may be hoped, find it possible to perform this duty without impairing in the least degree the present usefulness of the University in directing, testing, and rewarding non-collegiate study. Above all, they will provide room for future expansion, and will remember that every institution in the world which has real vitality in it must be ready to avail itself from time to time of new opportunities of acquiring strength and rendering itself useful to the community. Thus the moment is opportune, and the way seems to be open at last for the settlement of this long-debated question on an equitable and permanent basis. It is manifest that the present Government and Parliament would derive much honour and do a signal public service if the sixtieth year of Her Majesty's memorable reign were distinguished by the establishment of a great University, on a scale worthy of its Imperial position and commensurate with the intellectual needs of the metropolis.

In the second week of February, the Archbishop of Canterbury unveiled a bust of Arnold at Rugby. Dr. Temple said that we owed to Dr. Arnold the proclamation, not only by word but by personal example, of what was the true purpose of all real education. Men's minds had been opened to see the great truth,

which on every occasion of his life Dr. Arnold perpetually illustrated, that, in education, character must always stand above everything else. Before Arnold's time there was good instruction in scholarship and old classics, and tolerably capable government of the schools; but they could not say that before Arnold's time it was clearly seen that, in the education of the young, the training of character was of infinite importance, and all else, however excellent, stood at a far lower level. It was Arnold who taught masters to trust boys, and boys masters, and in that mutual confidence to find the means of giving masters the noblest aim teachers could possibly have before them, and to boys the noblest formation of their whole being. From that day to this all other schools had caught up the idea.

The rustication of King's College School will take effect after the Easter holidays. The property which the Council have purchased is known as "South Hayes," and faces Wimbledon Common, stretching back to the Ridgway. The situation is one of the healthiest and most attractive in the neighbourhood, and there is already on the site a large building suited to the immediate needs of the school and capable of easy extension. The County Council of Surrey, who have very effectually organized secondary education within their limits, will, it is thought, welcome a first-grade day school—admirably conducted as this is—to a habitation south of the Thames, as being essential to a complete educational scheme. A considerable number of the pupils at the school come from Surrey, and that county is already by its scholarships closely linked with the college.

The Pender Memorial Committee have decided that a sum of not less than £5,000 be placed in trust with the Council of University College, London, to form an endowment for the maintenance of the electrical laboratory in that College, on condition that the Council name the laboratory the "Pender Laboratory," and the existing Chair of Electrical Engineering the "Pender Chair of Electrical Engineering."

The Secretary to the Delegacy of Local Examinations, Oxford, has addressed the following letter to headmasters and headmistresses of secondary schools:—

Dear Sir (or Madam),—You are probably aware that the University of Oxford has passed a statute for providing instruction and examination within the University in the theory, history, and practice of education, for members of the University and others who intend to become teachers in secondary schools. It will be seen from the enclosed copy of the statute that the Delegates have been entrusted with the duty of organizing the necessary instruction for the University examination. In order that the theory may be as closely as possible associated with the practice of education, the Delegates have been further empowered to "make arrangements for satisfying themselves of the proficiency of candidates in the practice of education," and also to make arrangements with schools by which students may obtain experience. It is the wish of the Delegates to arrange that candidates may find opportunities of obtaining a portion of their practical training in Oxford. But they think that they cannot generally declare themselves satisfied as to the practical proficiency of any candidate unless, in addition to the special instruction given in Oxford, he or she has had at least a month or two of probationary work in a school, and this is only possible if a certain number of schools are able and willing to give facilities for such work. The Delegates would ask the headmasters and mistresses of schools to consider the possibility of giving their co-operation in two ways: (1) by affording opportunities (with the consent of their governing bodies if required) for practical training; (2) either by supplying board and lodging for one or more candidates, or (if that were not convenient) by making them some small payment in return for services rendered by them. The Delegates would wish that a candidate should be put in charge of a class, whether for one lesson at a time or for longer, but in all cases under the direction or supervision either of the headmaster (or mistress), or of some member of their staff; that the candidate should not be confined to one class, so that experience with pupils of different ages and attainments might be gained; and that the candidate should also render any help which he or she might be capable of giving in the other duties ordinarily discharged in the school by assistant masters or mistresses. The Delegates would ask, further, that a candidate, before being awarded a diploma, should be allowed to give one or more lessons in the presence of their examiner, sent for the purpose at some convenient time. When the probationary work is completed, the head of the school would be requested either to give them a written opinion as to the candidate's practical efficiency or to countersign the diploma to be issued by the Delegacy. The statute does not allow members of the University to offer themselves for examination before the end of their second year of residence, and in the case of Oxford women students a corresponding condition will probably be imposed. The regulations respecting the admission to the examination of those who are not members of the University are not yet finally settled, but probably they will not be admitted unless they have taken the degree of B.A. or B.Sc. at some University. In the case of women students of Oxford and Cambridge equivalent testimony as to general education will be required. The Delegates will do their best to meet the wishes of those heads of schools who may desire to select the persons to be attached to their schools from among the candidates offering themselves. It is not probable that candidates in any number will be ready before next September, or that many schools will be asked to give their aid in the immediate future. I am accordingly instructed to inquire whether you would be willing to assist the Delegates by receiving one such probationer, or, if possible, more than one, and, if so, on what conditions; and, also, whether you can suggest some schools in your neighbourhood to which application might be made, or other methods of helping the Delegates to carry out the provisions of the statute. Should you be able and willing to assist the Delegates, I shall be pleased to send you an early copy of the syllabus as soon as it has been prepared by them.—I remain, Yours very truly,

H. T. Gerrans, *Secretary to the Delegacy.*

The Fellowship of the College of Preceptors has been conferred on Mr. Frank H. Hayward, B.A., B.Sc., accompanied by a prize of £10 awarded for proficiency in theory and practice of education. Mr. Hayward, in 1892, secured, in open competition, one of the free studentships offered by the Bristol Town Council, and tenable at University College, Bristol, for three years. In 1894 he obtained the B.A. degree, and in 1896 the B.Sc. degree, of the University of London, and now holds the Teaching Scholarship in Physics at University College, Bristol.

UNIVERSITIES.

(*From our Correspondents.*)

Oxford. The Delegates of Local Examinations have appointed Mr. W. Keatinge, formerly exhibitioner of Exeter College, as Tutor and Lecturer in Education under the statute authorizing them to provide lectures and other training in the theory, history, and practice of education. The regulations are not yet issued, but it is provided that the first examination shall be held in December, and no diploma will be issued to a candidate unless he or she has both satisfied the examiners in the subjects of the examination and the Delegates as to efficiency in teaching. The Oxford system of training is not likely to come seriously into competition with that established by Cambridge. It will probably be more specially adapted to the needs of men and women who have received a University education, and who are preparing to take the higher forms in schools. The lectures may be expected to be more philosophical, and the teaching of the practice of education less formal, than can be the case where students have to be educated as well as trained. It is to be hoped also that it will primarily be intended for men. The Delegates will no doubt put resident women students on the same footing as undergraduates, and, if graduates of other Universities are admitted, will remember that they are of both sexes, and that Cambridge Tripos students are virtually graduates; but the scheme will fail of its object if it does not attract men, and men of good calibre. To effect this it must be framed on University lines, and avoid rigid and stereotyped methods. The Delegates are endeavouring to make arrangements for some part of the practical knowledge of education being acquired in schools of the same character as those in which the candidate intends to teach, and carried on under the direction of the headmasters and mistresses of such schools. Such a plan, if judiciously carried out—regard being paid to the interests both of the school and of the candidate concerned, will be valuable; but it must be carefully safeguarded. The candidate will not be a student-teacher, but a young man or woman trained at a University, who, as things stand now, would probably obtain a fair salary even without training, and, if his or her services are given for a smaller salary, some corresponding advantage in the way of definite training and direction may be expected. On the other hand, it will be unfair to the pupils to entrust a large part of their education to a succession of probationers, who are not looked upon as part of the regular staff.

The Statutes recently promulgated on the subject of the offices of Registrar and Secretary to the Board of Faculties are of no great interest to the general public, though they will, no doubt, be much discussed within the University.

The restoration of the pinnacles and battlements of the University Church, in accordance with the design of Mr. T. G. Jackson, is to be carried out immediately, but the City Council has rejected two proposals for the restoration, or, rather, the partial rebuilding, of Carfax Tower. Its present appearance is no credit to the City, but it seems very undesirable to spend a large sum of money in adding an entirely modern top to the older work.

The death of Professor Wallace, from an accident in bicycling, is felt not only as a personal sorrow to his friends, but as a serious loss to the Oxford School of Philosophy. He was originally a Balliol man, and succeeded to the Chair of Moral Philosophy on the death of Mr. T. H. Green, in 1882. He was one of the comparatively few professors who constantly attracted a large audience of University men, and, being an excellent lecturer, he interested amateurs in lectures primarily intended for students. Of his services to philosophy this is scarcely the place to speak; they need a fuller treatment and more knowledge of the subject than the present writer can claim. The University is also losing one of its younger philosophy tutors, Mr. Leonard Hobhouse, who is leaving Oxford this summer for work in London.

"The Knights" will be performed for the first time on Wednesday, and will alternate with "The Taming of the Shrew." The O.U.D.C., it is said, wished to produce "Comus," but could not obtain the permission of the Vice-Chancellor. This extension to Aristophanes of an approval not granted to Milton has produced an amusing little skit in the *Oxford Magazine*. The music for "The Knights" has been written by Mr. Bussell, of B.N.C., a gentleman whose name has not yet been connected with the Greek play revivals.

Cambridge. Rumours are in the air to the effect that the Report of the Syndicate on the woman's question is likely to be more favourable to the ladies than would have been expected considering the composition of the Syndicate. It is to be hoped that, if a broad and liberal policy is suggested by the Syndicate, the matter may be definitely settled. It is quite clear that a partisan report would only excite animosity on both sides, and make the ultimate solution more difficult.

The discussion about the proposed changes in the Historical Tripos revealed strong differences between those who would keep up the political character of the present examination and those who would limit the subjects to history in the technical sense. The introduction of a paper on Universal History has certainly not been justified by the arguments of the "Pure History" school, and, unless the scheme is somewhat modified, the opposition will almost certainly throw out the whole scheme. Mr. Browning said, in the course of the debate, that he agreed with the opinion held by Sir John Seeley, that this (Outlines of Universal History) was not only *a* bad subject, but *the* bad subject; that it would ruin the study in Cambridge; that it belonged to the infancy of historical study. It was a subject found at the *école normale*, and in the inferior Universities of Germany, but was abundantly condemned by experience.

Similar views were expressed by other speakers, but the most important *pronunciamiento* up to the present date has been on behalf of a large number of persons actually and actively engaged in the work of teaching history in Cambridge, who view the practical elimination of the political subjects as an unmixed evil. The proposal to divide the Tripos into two parts, to bring it into line with the other Honour examinations, met with ready acquiescence, and it is to be hoped that the Board will now enable this alteration to be made, with the unanimous consent of the Senate, and not overweight the ship with too great a burden of contentious matter. Mr. Browning has the support of the teachers, and the Board will do well not to under-estimate the enemy's forces.

It is pleasant to be able to record a case of financial plethora. Mr. Glazebrook, the Senior Bursar of Trinity College, is able to report to the Vice-Chancellor that the funds of the Whewell Trust are sufficient to enable the number of the scholarships to be immediately doubled. The only matter of regret is that the late Dr. Whewell should have chosen as the subject of his endowment a subject of so little educational value as International Law. The principle of selection without competition might, it is thought, have been applied with advantage to one scholarship, on the model of the John Lucas Walker studentships, in which case work of sterling and lasting quality might have been obtained from men of more mature experience than the average Whewell scholars of the present day. It is curious to note also that, though Cambridge can point to the fact of having resident in the University three such recognised authorities on international law as Mr. Westlake, Dr. Lawrence, and Dr. Walker, two of these are clergymen, and therefore not available for the arguing of disputed cases in the international arbitration tribunals of the future.

A degree for Dr. Nansen is, of course, the natural outcome of University gratitude to one the true value of whose work is perhaps better understood and appreciated by the scientific world than by the general public. The distinguished explorer will receive a welcome from the undergraduates which will do him, perhaps, as much good as the elegant Latinity of the Public Orator.

Although the Professorship of Surgery is in abeyance for the present, a grace has passed the Senate that a stipend of £250 per annum "shall be paid to Mr. J. Griffiths, of King's College, while discharging the duties of the office." This arrangement gives the University the benefit of Mr. Griffiths's skill and experience without giving that gentleman the title of Professor. To the students it does not make much difference. It is a source of congratulation to the University that rising young men of this type are content (for pure love of their profession) to throw in their lot with the Cambridge Medical School. The best work in this University seems to be associated with the lowest stipends.

A note appeared in this correspondence last month with reference to the recent examination of candidates for certificates of the Teachers' Training Syndicate. It was my desire to draw attention to the fact that a very large proportion of the successful students were from Cambridge, and, it should have been added, from the Cambridge Training College. In this place reference has frequently been made to the excellent work done by the institution which Miss Hughes, practically single-handed, has built up into one of the most valuable educational agencies of Cambridge. The fact that more than half the successful candidates hail from Miss Hughes' College is ample testimony to the merits of the institution over which she presides. I am only sorry that my remarks appeared open to misinterpretation.

With regard to Ayerst's, I should have said that the hostel in question has passed into the hands of the Roman Catholics. The building was purchased by the Duke of Norfolk for the purpose of establishing a public hostel in connexion with the University for candidates for Holy Orders. It will not, however, be a theological college. The men will come for all Schools and enter for the University examinations. It is intended to receive only those who will read for Honours. The headship of the hostel will probably be conferred upon the Rev. W. O. Sutcliffe, M.A. St. John's, at present Assistant-Inspector of Religious Knowledge in the Diocese of Westminster.

The foundation of this institution marks an important epoch in the history of Roman Catholic education. More than five-and-twenty years ago the Pope was approached by certain eminent University men of his own Church, with a view to his sanctioning the residence of Roman Catholics at the Universities. The answer from Rome was unequivocal. The Roman Catholic Church prevents by all means in its power the mixed education of Roman Catholics and Protestants, and uses all its influence to restrain parents from sending their sons to mixed colleges or Universities. After the abolition of tests, the Pope was again approached, and a still more emphatic answer was given, to the effect that the need of the former prohibitions was greatly strengthened by the new changes. We now see an altered policy, of which the new college is the direct outcome.

Personal Items:—Members' Prize for English Essay: W. F. Reddaway, B.A. King's College. Hon. Mention: M. S. D. Butler, B.A. Pembroke College. Craven Scholarship: A. W. Mair, Caius College. Waddington Scholarship: G. C. Armstrong, Trinity College. Chancellor's Medals: A. E. Bernays, Trinity, F. M. Cornford, Trinity, equal. The Rev. J. E. C. Welldon, Headmaster of Harrow, has been appointed Hulsean Lecturer, and the Rev. G. Body, Canon of Durham, has been selected as Lecturer in Pastoral Theology.

London. The reports on January examinations, outstanding when our last notes were written, have all been posted during February. Six candidates, two in each class, obtain Honours at the Intermediate Examination in Laws; but the exhibition is not awarded: and 11 obtain Honours at the LL.B. Examination, of whom 5 are in the First Class, the scholarship being awarded to Mr. A. H. Withers, a private student.

At the LL.D. Examination 3 candidates out of 7 succeed, 1 of whom, Mr. F. G. Neave, a private student, carries off the Gold Medal.

At the Preliminary Scientific Pass Examination in the Medical Faculty only 16 out of 60 candidates who appeared at the entire examination pass it; but 15 others are credited with a pass in Chemistry and Physics, and 8 more in Biology. Of about 80 who went up for the first two subjects, 54 pass; and, of 40 who took up Biology, only 21 pass; so that, of the 180 candidates, 114 get credit for all or something. Of this total 22 are women—2 passing in the whole examination, 18 in two subjects, and 2 in one subject.

At the Intermediate Examination in Medicine 20 candidates (4 women) pass in all the subjects; 34 (3 women) in Anatomy, Materia Medica, and Organic Chemistry; and 24 (1 woman), who had previously passed in those three subjects, now pass in the fourth subject, viz., Physiology.

At the January Matriculation Examination there were 1,175 candidates—a considerable falling-off as compared with the number a year ago (1,303); but the proportion of passes is somewhat higher—592 (50·4 per cent.) against 614 (47 per cent.), although the average excellence appears to be low, as only 12 get into the Honours Division, while 229 are in the Second Division. Of the 12 in Honours, 6 straight off are above the age within which exhibitions and prizes can be held; so also are the ninth, tenth, and twelfth candidates: thus only the three exhibitions are awarded, and not the three prizes. The first Exhibition goes to the seventh candidate, Mr. J. W. Barker, of the Central Higher Grade School, Leeds; the second to the eighth candidate, Mr. Bernard Higham, of Camberwell Grammar School; and the third to the eleventh candidate, Mr. F. W. Skemp, of the Higher Grade School, Douglas, Isle of Man. No doubt these young gentlemen well deserve their distinctions; but, as they are all in the lower half of the division, it seems to us that the exhibitions must have been awarded on much lower totals of marks than is generally the case. The number of women present was 308, of whom 150 (48·7 per cent.) pass, but none are Honours; last year the numbers were 306 and 140 (45·8 per cent.).

As we go to press, we learn that Prof. Jebb has been appointed by the Crown to fill the vacancy in the Senate caused by the death of the Rev. Dr. Holden. It is unnecessary to add anything about a gentleman of such world-wide reputation, except, perhaps, the probably forgotten fact that Prof. Jebb acted as Examiner in Classics to the University for the years 1872–75.

APPOINTMENTS, &c.

Mr. F. B. Jevons, M.A., D.Litt., Senior Proctor and Censor of Unattached Students in the University of Durham, has been appointed to succeed the Rev. Dr. Robertson (who goes to King's College, London) as Principal of Hatfield Hall. Dr. Jevons is the author of a *History of Religion*, *History of Greek Literature*, and (in conjunction with Professor Percy Gardner) of a *Manual of Greek Antiquities*.—Mr. W. S. Boulton, Lecturer in Geology and Geography at the Mason College, Birmingham, has been appointed Lecturer in Geology at the University College of South Wales and Monmouthshire.—The Delegates of Local Examinations at Oxford have appointed Mr. M. W. Keatinge, B.A., assistant-master of Edinburgh Academy, late Exhibitioner of Exeter College, to be Tutor and Lecturer in Education under the provisions of the University Statutes approved by Convocation last November. Mr. Keatinge has lately published a translation of "The Great Didactic of Comenius," with notes and introduction.—Mr. Owen Owen, M.A., Headmaster of Oswestry High School, has been appointed Chief Inspector of Intermediate Schools to the Welsh Central Board.

The Chair of Moral Philosophy at Oxford is vacated by the accidental death of Professor William Wallace. The late Professor was one of our most noted Hegelians.—A University Lectureship in Botany at Cambridge is vacant by the resignation of Mr. W. Gardiner. The stipend is £100 per annum, and the election will be for a term of four years and nine months, from March 25, 1897, until December 25, 1901.—The Principalship of St. David's College, Lampeter, is vacant by the appointment of Canon Owen to the see of St. David's, in succession to the late Dr. Basil Jones.

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We are informed that the London University (Statutory Commission) Bill will be proceeded with in the House of Lords shortly after Easter.

A lecture by Mr. Walter Crane, on "Needlework as a mode of Artistic Expression," will be given on Wednesday, March 3, at 8 p.m., in the East Conference Hall of the Imperial Institute. Admission is free to apprentices and students, by tickets to be obtained at the Royal School of Art-Needlework.

It has been proposed by Lord Playfair and others, as one mode of celebrating the Queen's long reign, that the buildings of the South Kensington Museum shall be completed at the public expense, and that the Museum itself shall hereafter be known as the Victorian Museum. It is understood that the Government would not be unwilling to provide the money by a supplementary estimate, if they were assured that there would be no great opposition to such a course.

At the Pestalozzi celebration last autumn, Mr. Ebenezer Cooke suggested that a society should be formed for the further study of Pestalozzi's writings on education. The idea has been warmly taken up, and it is now proposed to realize it. By permission of the Council, a meeting will be held at the College of Preceptors, Bloomsbury Square, on Monday evening, March 15, at 8 o'clock, when the constitution of the society will be considered, and a programme of work drawn up. All who are interested in the subject are invited to attend.

It is proposed, as will be seen by a letter in our Correspondence for the month, to preserve the memory of the late Mr. Beuzemaker in some manner which may be of service to the Modern Language Association.—We are asked to state that the minimum annual subscription of members of this Association is now fixed at half-a-guinea.

The grant of £150 a year offered by the Leathersellers' Company to the City and Guilds Institute is to be applied in founding one or more Fellowships, entitled "Leathersellers' Company's Research Fellowships," for the encouragement of higher research in chemistry in its relation to manufactures. The amount of the grant attached to each Fellowship is to be determined by the Executive Committee of the Institute, regard being had as far as practicable to the nature of the research, the time required to complete it, and the merits of the candidate—subject in all things to the approval of the Company.

A SEVENTEENTH-CENTURY REFORMER.

By Guy Cadogan Rothery.

Although the story of the learned lady-Professor Agnesi presents many points of interest, as I have endeavoured to show, the struggles of our own countrywoman Mary Astell are even more worthy to be recalled. While Agnesi the Angelic sat secure in a University chair, lecturing to obedient students, Mary Astell took upon herself the more difficult task of appealing for equal rights to education on behalf of her sisters, at a time when society at its best was strangely coarse, and most women were given over to frivolity. It is strange that this seventeenth-century champion of woman's claims should be so generally forgotten by workers of the present day.

Mary Astell, the daughter of a reputable merchant of Newcastle, was born in that city in 1668. Her parents were singularly liberal-minded, and gave their cherished child a sound education. This merely served to whet her appetite; the little maid fell deeply in love with her books, studying them with precocious diligence. Quick and intelligent, endowed with a receptive and retentive mind, she made such rapid strides in all she took up that she attracted the attention of her uncle, a clergyman, who constituted himself her tutor in philosophy, mathematics, logic, Latin, and French. Armed with these helps to knowledge, she entered upon a life of study and active work, twenty years of which passed amidst an admiring circle of friends in Newcastle. Ultimately, she removed to London, fixing her abode in semi-rural Chelsea. Though continuing her studies, and constantly reading the Bible, Plato, Xenophon, Tully, and Seneca, she mixed much in society and apparently enjoyed the friendship of Princess Anne, who was subsequently to fill the throne.

To a woman of her strong religious convictions and literary tastes society presented but a sorry picture. She saw much to condemn in the laxity of conduct, much to lament over as regards the position of women. Searching for an explanation of the follies of the times, she found it in the neglect of learning, and especially the lack of proper education for those of her own sex. These reflections induced her to publish in 1694

a little work entitled "A Serious Proposal to Ladies." It was issued anonymously, but the authorship seems to have been at once recognized. The book is a review of the relative positions occupied by the sexes in civilized nations. In man she saw a tyrant who set up artificial barriers to prevent the intellectual advancement of women. In her introduction she declares her attitude without reserve:—

"Whatever has been said by men, of more wit than wisdom, and perhaps of more malice than either, that women are naturally incapable of acting prudently, or that they are necessarily determined to folly, I by no means grant it. . . . The incapacity, if there be any, is acquired, not natural; and none of their follies are so necessary but that they might avoid them if they pleased themselves. The cause, therefore, of the defects we labour under is, if not wholly, yet at least in the first place, to be ascribed to the mistakes of our education, which, like an error in the first concoction, spreads its ill-influence through all our lives. The soil is rich, and would, if well cultivated, produce a noble harvest"—

a dictum that the nineteenth century is scarcely likely to deny. She argues that the only way to cure the vanities of her sex, and put an end to the irregularities in society, is to educate a girl largely on the same lines as her brother. "What," she cries, "are ignorance and vice but diseases of the mind contracted in its two principal faculties, the understanding and will? And such, too, as like many bodily distempers do mutually foment each other? Ignorance disposes to vice, and wickedness reciprocally keeps us ignorant, so that we cannot be free from the one unless we cure the other." It is amusing, however, to find that in the second part of the "Serious Proposal to Ladies," published in 1697, with the sub-title "Wherein a Method is offered for the Improvement of their Minds," her zeal leads her to carry warfare into the enemy's camp; she adopts the *tu quoque* method of argument, and in a series of savagely penned pages gives us word-pictures of vanity- and vice-ridden men. As she remarks: "Ignorance and a narrow education lay the foundation of vice, and imitation and custom rear it up"; moreover, "a rational mind will be employed—it will never be satisfied in doing nothing; and, if you neglect to furnish it with good materials, 'tis like to take up with such as come to hand." If not a book or responsible duties, why then the pack of cards or the dice box.

Mary Astell's plan for promoting this desirable revolution, and bringing women to appreciate the value of learning, was to establish a house of retreat, or religious retirement. Princess Anne, it is said, was anxious to find money for the scheme, but the proposal alarmed the clergy. Bishop Burnet remonstrated with the author, and told the Princess that such an institution would be a danger to Protestantism, suggestive of a revival of Romish customs. Yet there were to be no vows, no obligation to remain in the house; it was to be merely a place for retirement, whether lifelong or temporary. "In a word, this happy society will be one body, whose soul is love, animating and informing it, and perpetually breathing forth itself in flames of holy desires after God, and acts of benevolence." Apparently it was to be a kind of Girton or Newnham, but with the religious principle as the chief guide. If the clergy were alarmed by the "Proposal," the "young bloods" about town were touched to the quick by the satirical pen of the author, and we find such men as Addison and Steele fathering attacks that can only be described as scurrilous libels.

However, the keystone to her whole life-work is summed up in her own words: "Whoever would act to purpose must propose some end to themselves, and keep it still in their eyes throughout their whole progress. Life without an end in view becomes disorderly." She had no doubt as to her mission; the end in view was sufficiently defined, so that she persevered, in spite of the terrors of her friends and the sneers of opponents. "Knowledge," she says, "in a proper and restricted sense and as appropriated to science, signifies that clear perception which is followed by a firm assent to conclusions rightly drawn from premisses of which we have clear and distinct ideas." To her, knowledge of things constituted learning, not merely an acquaintance with words; and, returning scorn for scorn, she declares that many a pretentious pedant is an ignoramus. In her "Defence of the Female Sex" (1696) she breaks a lance with the schoolmen behind their breastworks of Latin and Greek: "I take Nature to be the great book of universal learning, which he that reads best in all or in any of its parts is the greatest scholar, the most learned man; and 'tis as ridiculous for a man to count himself more learned than another, if he have no greater extent of knowledge of things, because he is more versed in dead languages, as it would be for an old fellow to tell a young one his eyes were better than his because he reads with spectacles, the other without."

In those days the "proper sphere of women" argument was constantly trotted out, and such criticism she meets fairly enough. "If any object against a learned education that it will make women vain and assuming, and, instead of correcting, increase their pride, I grant that a smattering in learning may, for it has this effect on men—none so dogmatical and so forward to show their parts as your little pretenders to science. But I would not have the ladies content themselves with the show: my desire is that they should not rest till they obtain the substance. And then she who is most knowing will be forward to own, with wise Socrates, that she knows nothing—nothing but what is attended with so much ignorance and imperfection that it cannot reasonably elate and puff her up. The more she knows the less she will be subject to talkativeness and its sister vices, because she discovers that the most difficult piece of learning is to know when to use and when to hold one's tongue, and never to speak but to the purpose." On the other hand, "as unnecessary as it is thought for women to have knowledge, she who is truly good finds very great use of it, not only in the conduct of her own soul, but in the management of her family, in the conversation of her neighbours, and in all the concerns of life. Education of children is a most necessary employment, perhaps the chief of those who have any; but it is difficult as it is excellent when well performed. . . . Nor will knowledge lie dead upon their hands who have no children to instruct; the whole world is a single lady's family, her opportunities of doing good are not lessened but increased by her being unconfined."

Though well aware, as she herself so truly puts it, that "custom has usurped such an unaccountable authority that she who would endeavour to put a stop to its arbitrary sway, and reduce it to reason, is in a fair way to render herself the butt of all the fops in town to shoot their impertinent censures at," she remained stanch to her mission, and, remaining a close observer of the world, brought forth from time to time a variety of books and pamphlets. Her religious philosophic controversy with the Rev. John Norris, of Bemerton, on the "Pure Love of God" (published in 1695), attracted much attention. A year later she launched forth her "Inquiry after Wit: Wherein the trifling arguing and impious raillery of the late Earl of Shaftesbury, in his letter concerning enthusiasm, and other profane writers, are fully exposed and answered." This work is dedicated to the Kit-Cat Club, and in the introduction she shows a marvellous mastery of polite satire and biting sarcasm. Little wonder that the fops writhed and swore under the terrible flagellation. A war of pamphlets arose, some against and some for the "Inquiry." Her "Defence of the Female Sex" came out in the same year.

Once again she offers battle to man in her "Reflections on Marriage" (1700), a very outspoken work, which was bitterly criticised. Nothing daunted, she published a second edition in 1705, with a flaming preface in which she defends herself somewhat forcibly. With her firm convictions and stern Protestantism, she was no friend to Popery or Nonconformity. Her "Moderation Truly Stated" was a protest against lukewarm divines, which was eagerly seized upon by controversialists. Next she replies to Defoe's "Shortest Way with Dissenters" in "A Fair Way with Dissenters and their Patrons, written by a very moderate pen and a dutiful subject of the Queen." It must be confessed that Mary Astell's notions of moderation are somewhat peculiar, akin to the humanity of those Churchmen who hanged their opponents instead of sending them to the stake. Her last work appears to be "The Christian Religion, Professed by a Daughter of the Church of England" (1705).

It will be gathered from this brief review that Mary Astell was a keen fighter; but, though her warmth may alternately provoke a smile and cause one to grieve at palpable indiscretions, it must be remembered that she felt deeply, and that her pioneer work on behalf of reform in education was resisted with a savageness that did little credit to the men of letters and wit in those days. Happily she was a philosopher, one of a fiery nature, who could give hard knocks in battle and then retire to her hermitage undismayed by the blows received. There can be little doubt that her work had a beneficial influence in the school-room, and later in the world of fashion.

GUMPTION PAPERS.

The value of periodical school examinations in the common facts of everyday life is recognised in not a few of our public and private schools. It may interest some of our readers if we reproduce the following "Observation and General Information Paper," set in December at a large private school in Clapham:—

1. Mention a very important fact relating to the Queen, which attracted universal attention in September, 1896.

2. Give the names of the Prime Minister, Lord Chief Justice of England, Leader of the House of Commons, the M.P.'s for Clapham and Battersea, the present and next President of the United States, past and present Archbishops of Canterbury and Bishops of London, the President of the Royal Academy, and two former Presidents.

3. Name the authors of "The Pilgrim's Progress," "Paradise Lost," "Bleak House," "Utopia," "She," "The Earthly Paradise," "Sartor Resartus," "A Tale of Two Cities."

4. In connexion with South Africa, give (*a*) the name of the President of the Transvaal; (*b*) the names of three of the leaders of the recent raid into that country; (*c*) the name of the English Colonial Secretary. (*d*) Where are the leaders of the raid at the present time?

5. What are motor cars? Describe the conditions under which they were placed as to their progress on public roads before and after November 14, 1896.

6. In connexion with Nelson, give (*a*) the date of the Battle of Trafalgar; (*b*) the exact words of his celebrated signal; (*c*) by means of slight rough sketches, illustrate the great difference in appearance between the "Victory," Nelson's flag-ship, and a modern battleship; (*d*) sketch the Nelson Column on October 21, 1896; (*e*) where is Nelson buried?

7. What planet is now a brilliant object in the S.E. sky at 8 p.m. Make sketches of the Great Bear and Orion. During what months are meteors most common? Compare the weather of October and November of this year.

8. In connexion with cricket, give (*a*) the Champion County for

1896; (*b*) the name of the Australian Captain; (*c*) the name of the batsman who made the greatest number of runs last season; (*d*) the winner of the 'Varsity Match; (*e*) fill in the names to the following initials of celebrated cricketers:—W. G. ——, K. S. ——, J. T. ——, W. W. ——, K. J. ——, S. M. J. ——.

9. Show by a sketch how the field is placed for Association Football, with names of the various positions; also, by a sketch, the difference between the Association and Rugby goal posts.

10. At what times (approximately) does the sun rise and set on Midsummer Day and Christmas Day? What are the dates of Lady Day and Michaelmas Day?

11. Sketch, side by side, a leaf of an oak tree and one of a Spanish chestnut.

12. Illustrate, by a rough sketch map, the following details in Clapham:—Churches: the Parish, the Congregational, Catholic, Wesleyan. Streets: High Street, Pavement, Old Town, Cedars Road, Elms Road, Nightingale Lane. The Ponds on the Common.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A MEETING of the Council was held at the College, Bloomsbury Square, on the 13th of February. Present—Dr. Wormell, Vice-President, in the Chair; Mr. Baumann, Rev. J. O. Bevan, Rev. A. W. Boulden, Mr. Brown, Mrs. Bryant, Dr. Buchheim, Mr. Butler, Mr. Charles, Mr. Chettle, Mr. Eve, Mr. Harris, Miss Hughes, Mr. Kimber, Mr. Milne, Mr. Montgomery, Mr. Pinches, Rev. Dr. Poole, Mr. Reynolds, Mr. Robinson, Rev. Dr. Robson, Rev. W. J. Savell, Rev. Dr. Scott, Mr. Sergeant, Mr. Stewart, and Dr. Sully.

The minutes of the last meeting were read and confirmed.

The Diploma of Licentiate was granted to Mr. C. F. W. King, and that of Associate to Mr. D. Bryant, Mr. H. Parker, Miss A. B. Ridge, and Miss A. M. Seymour, who had passed the required examination.

The Report of the Finance Committee was adopted.

The Report of the Teachers' Training Committee was adopted.

The Moderators and Examiners for the year 1897 were appointed.

The Very Rev. the Dean of Wells was re-elected President of the Council, and Dr. R. Wormell, the Rev. Canon Daniel, and Mr. J. Stewart were re-elected Vice-Presidents. Mr. H. W. Eve was re-elected Dean, and Mr. E. E. Pinches Treasurer of the College.

The following persons were elected Members of the College:—

Mr. A. J. H. Brown, L.C.P., Ebor School, Bexhill-on-Sea.
Miss E. Eales, River Front, Enfield.
Miss M. E. Evill, A.C.P., Esk House, Inverleith Avenue, Streatham.
Rev. R. Harley, M.A., F.R.S., Rosslyn, Westbourne Road, Forest Hill, S.E.

The following books had been presented to the Library since the last meeting of the Council:—

By H. A. FRANKLIN.—Fritsch's German Grammar, Introductory to the German Grammar, and Key to the German Grammar.

By G. BELL & SONS.—Herford's Age of Wordsworth.

By BLACKIE & SON.—Boas' Shakespeare's Tempest; Evans' Pope's Essay on Criticism; Ninet's Aimard's Les Trappeurs de l'Arkansas; Wyatt's Shakespeare's Cymbeline; Blackie's Object-Lesson Sheets, Set C, and Suggestive Conversational Reading Sheets.

By the CLARENDON PRESS.—Bévenot's Cervantes' Adventure of the Wooden Horse and Sancho Panza in Barataria.

By C. J. CLAY & SONS.—Braunholtz's Molière's L'Avare; Edwards' Xenophon's Anabasis, Book II.; Ropes' About's Le Roi des Montagnes; Shuckburgh's Cæsar's De Bello Gallico, Book I., 1–29, and Cornelius Nepos; Verity's Milton's Paradise Lost, Books IX. and X.

By W. B. CLIVE.—Matriculation Directory, No. XXI.; Allcroft and Plaistowe's Cæsar's Gallic War, Book I., 1–29; Balgarnie's Translation of Xenophon's Cyropædia, Book I.; Briggs and Bryan's Advanced Mechanics (Vol. II.—Statics); Jeffery's Xenophon's Cyropædia, Book I.; Vocabularies and Test-Papers to the above; Thompson and Plaistowe's Livy, Book XXII., 1–51; Weekley's Higher French Reader.

By HACHETTE & Co.—Clapin's First Italian Book; Joste et Cahen's Lectures Courantes Extraites des Ecrivains Français (First and Second Series).

By MACMILLAN & Co.—Bell's Palgrave's Golden Treasury, Book II.; Collins' Pope's Essay on Criticism; Fasnacht's French Lessons for Middle Forms; Frazer's Scenes of Familiar Life in Colloquial French, and French Plays for Schools; Heawood's Geography of Africa; Jones' Junior Course of Practical Chemistry; Lyde's Man and his Markets; Macaulay's Poems by Matthew Arnold; Martin's Selections from Malory's Le Morte d'Arthur; Merk's Lessing's Minna von Barnhelm; Perkin and Lean's Introduction to the Study of Chemistry; Simmons' Physiography for Beginners; Reynold's Hygiene for Beginners; L. E. Steele's Selections from Steele's Contribution to the "Tatler"; Stevens' Mensuration for Beginners; Wilkinson's Stories of the Cæsars, from Suetonius.

By SMITH, ELDER, & Co.—Pope's Victoria Readers, Book VI.

Calendar of the Pharmaceutical Society of Great Britain, 1897.

COLLEGE OF PRECEPTORS.—CERTIFICATE EXAMINATION.

ERRATA IN CLASS LIST (CHRISTMAS, 1896).

FIRST CLASS (BOYS).

Insert in Pass Division: Davies, J. R., Higher Grade School, Merthyr Tydfil, *and omit in* Second Class, First Division.

In the Junior Forms Pass List, the following candidates should have been described as pupils of New College, Margate:—Godwin, S. V.; Hodges, C. E.; Oxborrow, A. F.; Roche, L.; Ruston, T. O.; Smyth, C. D.; Warren, H. E.; Weller, C. B.; Wilson, S. M.; and the following as pupils of New Brighton High School:—Adams, J.; Colocott, A.; Hill, R. H.; Rawlinson, A. L.; Ross, N. J.; Wheeler, T. W. H.

For Withers, B., *read* Dean, C., College High School, Huddersfield.

COLLEGE OF PRECEPTORS.—CERTIFICATE EXAMINATION,

CHRISTMAS, 1896.

The following is the list of the successful candidates at the Jamaica, Lagos, and Sierra Leone Centres:—

(Bracketing of names implies equality. The small figure [2] prefixed to names in the Third Class denotes that the candidates were entered for the Second Class.)

BOYS.

FIRST CLASS.—PASS DIVISION.

Allen, S. M.	C.M.S. Grammar School, Lagos.
Pratt, J. A.	,, ,,

SECOND CLASS.—FIRST DIVISION.

Marshall, E. S.	Wesleyan High School, Lagos.

SECOND CLASS.—SECOND DIVISION.

Taylor, J. S.	C.M.S. Grammar School, Lagos.
Akihanmi, J. A.	,, ,,
Leigh, C. O.	Wesleyan High School, Lagos.
Williams, A. C.	Wesleyan High School, Sierra Leone.
Babington, J. O.	C.M.S. Grammar School, Lagos.

SECOND CLASS.—THIRD DIVISION.

Hoare, B. O.	Wesleyan High School, Lagos.
Johnson, T. M.	Wesleyan High School, Sierra Leone.
Taylor, S. H. A.	,, ,, ,,
Pratt, E. W.	,, ,, ,,
Case, J. A.	,, ,, ,,
Tinney, A. A.	C.M.S. Grammar School, Lagos.
Wright, M. W. B.	Wesleyan High School, Sierra Leone.

THIRD CLASS.—FIRST DIVISION.

[2]Savage, W. A.	C.M.S. Grammar School, Lagos.
[2]Jones, F. N.	Wesleyan High School, Sierra Leone.
[2]Hasstrup, I. J.	C.M.S. Grammar School, Lagos.
[2]Whitfield, J. N.	Wesleyan High School, Sierra Leone.
Johnson, T. O.	C.M.S. Grammar School, Lagos.
King, T. A.	Wesleyan High School, Lagos.
Thomas, J. O.	,, ,, ,,

THIRD CLASS.—SECOND DIVISION.

Shogbesan, S. A.	C.M.S. Grammar School, Lagos.
[2]Caulcrick, J. A.	St. Gregory's Grammar School, Lagos.
[2]Cole, W. H.	Wesleyan High School, Lagos.
[2]Leigh, G. S.	,, ,, ,,
[2]Beckley, E. O.	C.M.S. Grammar School, Lagos.
[2]Roberts, G. A.	Wesleyan High School, Sierra Leone.
[2]Roberts, M. N.	,, ,, ,,
Williams, H. W.	Wesleyan High School, Lagos.
Wilson, D. B.	,, ,, ,,
Oni, E. O.	,, ,, ,,
[2]Thompson, I. L.	Wesleyan High School, Sierra Leone.
[2]Carrena, P. E.	St. Gregory's Grammar School, Lagos.
Pearse, J. A.	Wesleyan High School, Lagos.

THIRD CLASS.—THIRD DIVISION.

Martins, T. A.	Wesleyan High School, Lagos.
[2]Salvador, A. J.	St. Gregory's Grammar School, Lagos.
[2]Bucknor, R. O.	Wesleyan High School, Lagos.
[2]Macfoy, E. T.	Wesleyan High School, Sierra Leone.
Wilson, S. A. B.	Wesleyan High School, Lagos.
Samuel, K. V.	27 Charles Street, Kingston, Jamaica.

GIRLS.

FIRST CLASS.—HONOURS DIVISION.

Nicholas, L. E.	Barbican High School, Kingston, Jamaica. (distinguished in Scripture, English, and Music.)

FIRST CLASS.—PASS DIVISION.

Athias, M. I.	Barbican High School, Kingston, Jamaica.

SECOND CLASS.—SECOND DIVISION.

Hollar, L. C.	Barbican High School, Kingston, Jamaica.
Ernandez, L. T.	,, ,, ,, ,,
Cook, M. D. C.	Westwood High School, Stewart Town, Jamaica.
Facey, Y. O.	Barbican High School, Kingston, Jamaica.
Campbell, I. E. M.	,, ,, ,, ,,
Irving, L. I.	Westwood High School, Stewart Town, Jamaica.

SECOND CLASS.—THIRD DIVISION.

Brown, E. E.	Barbican High School, Kingston, Jamaica.
Prendergast, A. M. E.	,, ,, ,, ,,
Wilson, I. C.	Westwood High School, Stewart Town, Jamaica.
Duncan, E. K.	,, ,, ,, ,,

THIRD CLASS.—FIRST DIVISION.

Miller, L. A.	Barbican High School, Kingston, Jamaica.
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EVENING MEETING, FEBRUARY 17, 1897.

The Chair having been taken by the Rev. J. O. Bevan, M.A., F.C.P., FRANCIS BOND, M.A., F.G.S., Honorary A.R.I.B.A., read a paper on

ARCHITECTURE AS A REFLEX OF NATIONAL CHARACTER.

THE USE OF THE LANTERN IN TEACHING HISTORY, ILLUSTRATED BY EXAMPLES OF MEDIEVAL ARCHITECTURE.

THE subject which is proposed to me this evening is heralded by a title of prodigious length. Let me haste to assure you that it does not forebode an address of more than ordinary dimensions. I propose to confine myself to the consideration of "Architecture as a Reflex of National Character." For, if it can be shown that architecture does reflect national character, architectural illustrations will have made good their claim to assist those whose task it is to interest their pupils in the character and doings of those who in the past made history. It is often said that art generally—not architecture merely—is a reflex of national character. But this is untrue of long periods of national history. The fine arts, to use a term much misunderstood—it would be much more intelligible if we spoke not of the fine arts, but the useless arts, such as painting, sculpture, and music—the fine or useless arts do not come into existence while a nation is in a barbaric state or when it is grubbing for money. The arts of painting, sculpture, music, tell us little of the character of the Red Indian or even of the state of civilization of our colonies or of the United States. Not so with architecture. In the earliest stages of prehistoric history, before reading and writing, even before clothes, prehistoric man provides himself with a shelter; and, in providing himself a shelter, he is perpetrating architecture. Architecture is contemporaneous with the whole history of man; it knows no limits, either of time or of geography. Therefore it is a reflex of national character to an extent to which the fine arts, pure and simple, cannot be.

Let us convey ourselves, in imagination, to the head-waters of architecture and of history, and drift down the stream of time. It will perhaps be sufficient to commence seven hundred years before the Christian era—a time quite sufficiently removed from our own days. It is the period when the great architecture of the Greeks was taking form. The relations of the Greek architects to the yet more ancient builders of Egypt, Assyria, Persia, Phœnicia, not being determinable, must be left undetermined. You may see in the Crystal Palace a replica of the rock-hewn temple of Beni-Hassan; and from this and similar examples it is easy to deduce an Egyptian origin for Greek art and science and philosophy and religion, and everything that is Greek. But, as Egypt was a sealed book to the Greeks when Greek architecture was crystallizing into its final shape, it is possible to overstate the case for an Egyptian origin of the masterpieces of Greece.

THE GREEK STYLES.

And what was Greece? The very term is a misnomer. The largest and best preserved temples now remaining are not in Greece at all; but in Sicily and Southern Italy, at Selinus, Agrigentum, and, above all, at Pæstum, a little south of Naples, in *Magna Græcia.* The very name, Magna Græcia, is significant. As there is a Greater Britain beyond the seas, which nevertheless is Britain still, so there was a Greater Greece, part and parcel, not of Greece, but of Hellas. And where was Hellas? Its boundaries, like those of the German Fatherland, were the winged words of men. Not Suabian land or Pomeranian land, the Styrian or the Saxon land, but wherever the accents of the mother tongue are heard. Hellenic temples crowned the headlands and the citadels of all the Southern Sea, from the Euxine to

Cadiz, from Libya to Thrace. That is one lesson to be learnt from Greek architecture. And now while a series of Greek monuments pass before our eyes, let us think what they tell us of Greek character. In the first place, in such buildings as the Parthenon or the Erechtheium, not relative, but absolute, æsthetic perfection is reached. That is what can be said of no other monument erected by man, not even of Amiens or of the Taj Mahal. Analyse them you may; but at the end of the analysis, as in a lyric of Shelley, the contour of a lily, the folds of a rose, there is just an indefinable something which escapes analysis. Yet we know much. All can recognize the exact balance of the voids and solids, the careful contrasts of light and shadow, of the horizontal and the vertical line. But perhaps the most subtle note struck is that of proportion; and proportion is the life-blood of architecture. Every one notices the exquisite proportions of the Parthenon; everybody does not know that these proportions are regulated by a difference of 5; and that, of all the ratios in which that difference appears, only three are employed: viz., 7 to 12, 9 to 14, and 4 to 9. Of these the last is the favourite: *e.g.*, the length of the Parthenon is not exactly twice its breath, but as 9 to 4; nor is the breadth exactly twice the height, but as 14 to 9. And all these dimensions are correlated with the diameter and height of the column and with the abacus, and with the top-step, and so on, even to the remotest and most insignificant members of the building.

The adjustment of the dimensions of such an order as that of the Parthenon is as complicated as the interlocking system of the signal-box of a London railway station. Quite as remarkable is the subtlety of the curves employed; they are not semicircles, quarter-circles, and the like, but the hyperbolic and parabolic curves of conic sections drawn and executed with mathematical precision. Then there is a most wonderful series of optical corrections. The columns swell out at the centre; the architraves, and even the top-step, are slightly arched, lest they should seem to droop in the middle; the columns, the walls, the faces of the steps and of the entablature are not vertical, as they look, but sloped back, while the *antæ* lean forward—all this in accordance with the laws of spherical perspective. What does it all mean? Did the Greek know conic sections and spherical perspective by intuition? When one thinks of these things, and remembers that in the same little town there were living, within a short time of one another, Plato and Socrates and Aristotle, Æschylus, Euripides, and Sophocles, Thucydides and Aristophanes, Pericles and Themistocles, Phidias and Apelles, one realizes, despairingly, that there must have been as much difference between a Greek of the fourth century and any other being, ancient or modern, as between a man and an angel; that his intellect, his sensibility to form and colour were as much keener and subtler than our own as his body was more vigorous and beautiful. His ears caught harmonies which pass by us unheard; "our mortal vesture of decay doth grossly close *us* in—we cannot hear them." As one of their own poets has beautifully said of the citizens of the violet hill, they were "ever delicately stepping through most translucent air." Their masonry, too, is of precision unexampled; the joints so fine as to be practically invisible; the blocks are adjusted with the accuracy of the parts of an astronomical instrument. All right angles are absolutely true; each joint of the architrave is plumb to a hair-breadth with the axis of the column below, and in the absolute centre of the triglyph above. Two stones will sometimes cling to one another like blocks of ice, without mortar; so perfect is their adjustment. This is yet *more* disheartening. For this absolute and consummate perfection of execution was realized, not by the wealthy and leisured upper class, but by the labour of slaves. It seems that we must bow down abjectly to the superiority of Greek slave as well as Greek master. And here is another lesson. We hear a great deal of the ineffable serenity of Greek art. It is true, in more senses than one. The Greek must have been a callous creature. He had a marvellous feeling for art. He confined it to art. All these wonderful works were wrought by slaves, who drudged out lives of misery and despair on the slave-farm, in the factory, in the quarry or the mine. Not a breath stirs from all that festering heap of poor humanity to disturb the serenity of Greek art. The Egyptians, at least, depict for us something of the existence of those myriad captives whose labour and whose lives they took to build their mighty monuments. In Greek art, the slave, who did the work, is non-existent. We know the brilliant life of the wealthy Athenian aristocrat; of underground Greece we see and hear nothing.

But is there no weak joint in the perfection of Greek art; no vulnerable spot in Achilles; no way of annoying Greek conceit? For the Greek certainly was conceited, and must have been exceedingly unpopular. A Greek must have been about as popular with his neighbours as is a modern Englishman. But his conceit, like our own fine insular variety, was probably largely unconscious—all the more irritating for that. Let us look a little more carefully at a Greek temple; and, first of all, at its planning and the amount of accommodation provided. Well, the Parthenon has a nominal area of about 23,000 square feet. Strip off the external colonnades, useless for processions, and too narrow to shelter from sun or wind or rain, and deduct the supports, and there remains an effective area of only 9,000 square feet. In other words, allowing an area of 10 square feet per person, a first-class Gothic cathedral, *e.g.*, Chartres, or a first-class Roman building, like the Basilica of Maxentius, would seat about 6,000 people; the Parthenon, if enlarged proportionately, would seat only 2,700; *i.e.*, more than one-half of the nominal area of the Parthenon is wasted. Surely that is not very practical. Then, again, look at the roofs of the Greek temples. An Egyptian, when erecting Karnak, a Roman, when constructing the brick dome of the Pantheon, built roofs which, with reasonable care, would last for ever. They built, as all great builders have done, for eternity. Egyptian civilization and Roman civilization had their roots in a distant past; they looked forward to a distant future. Greek civilization sprang forth almost momentarily, like some brilliant butterfly. The Greek seems to have recognized that his art and culture were to be ephemeral, evanescent; for he put on his temples perishable roofs of wood. Or, again, look at the windows of a great Greek temple. But where are the windows? There are no windows. Was, then, the Greek temple pitch-dark, like some photographer's developing-room? Or was it lighted, as some do hold, through the front door, when open? Or was there a hole in the roof, or was the roof all hole, dispensing light and down-draughts and rain as well? For you must not think that ancient Greece was ever a summer-land,

> Where falls not rain or hail or any snow,
> Nor ever wind blows loudly.

It can rain very heavily at Athens; and the snow-blasts howl wildly round the peaks of Delphi and the lofty headland of Bassæ. One shudders at the picture of the priest and congregation cowering in the aisles, while the snow-flakes come whirling down. And what of the statues placed in the nave? What of that great statue, ivory and gold, of Athene Polias, placed in the nave of the Parthenon? What of the priceless store of votive tablets, the vases of gold and silver, the rich stuffs, the inestimable paintings, heaped round the knees of the goddess? Were they also exposed to the wet? Whichever hypothesis you prefer, darkness, partial or total, exposure, partial or complete, to down-draughts, rain, winds, and snow, can one honestly call the Greek temple a practical success? And is not this failure as a practical builder but an index of his failure as a practical administrator and organizer? Organizer he was none. Hellas had no organization; it was but an assemblage of disunited and conflicting atoms. In the great war, indeed, with the Persian, he showed himself, for a brief space, a soldier and a fighter. But he was too cultured to fight long. Had we ourselves the fine intellect, the keen æsthetic sensibility, of the Greek, should not we, too, take great care of our precious lives and limbs, as he called them? Greece produced great soldiers and sailors, but it was against the grain. Aristotle, describing the brave man *par excellence*, says that he will always be brave, unless, perchance, he die at sea. How could a nation expect to retain the empire of the sea whose brave men felt like that? Nor can one forget the brave army of the Athenians who were defeated because the enemy's general had finished his harangue first, and attacked them before they had been wound up to the striking point by declamatory rhetoric. Yes; Greek architecture is the reflex of the weakness of Greek morale, as well as of the supernatural fineness of Greek intellect and taste.

The Roman Builders.

Turn to Rome. Can there be a greater contrast? Apart from the grandeur of his imperialism, from which we, who are also citizens of a great empire, might learn a lesson, the Roman was a singularly commonplace man, hard-headed, unsentimental, matter-of-fact, unæsthetic, unspiritual—in fact, like the poor despised Englishman, a Philistine. But look at his buildings—I do not mean the semi-Greek temples for semi-Greek gods and goddesses, to which he was committed by a set of *dilettanti* and *virtuosi*, but at his own genuine Roman work, of concrete or brick, big enough to reflect the vastness of the Roman domain, built not for a passing day, but for the eternity of days for which

his dominion promised to endure. Look at the amphitheatre of Verona, 500 feet long to 400 feet broad, dwarfing the city beyond; or the Colosseum at Rome, greater still, which seated some 50,000—buildings whose power prejudiced poets and artists, and even architects admire; which, without a single good bit of detail, have extorted, as they still do, universal admiration; producing an overwhelming impression on the mind of magnitude and vastness, majesty and might, and monumental stability. Or think of the gigantic *thermæ*, such as those of Caracalla—a single hall of which is as large as Amiens or Chartres or the Liverpool Town Hall. The central block of the Thermæ of Caracalla, it is seen, in the diagram, was as large as our Houses of Parliament. Or go to Trèves—once the capital of the Treveri—and view one of the mighty gates in the wall of this provincial capital. The Porta Nigra, when complete, contained no less than eight distinct halls connected by their corridors. Or see the so-called Mole of Hadrian, merely the sub-structure of the mausoleum of that greatest of Roman builders; a tomb once as lofty as a Gothic cathedral. Above all, survey the aqueducts of Tarragona and the Pont du Gard, "which, without the introduction of a single ornament or of any member not essential to the construction, possess," as Mr. Fergusson acknowledges, "architectural beauty of the highest class"—structures practical, utilitarian, if you like, but grandiose, monumental. Not only were the Roman buildings stupendous in magnitude, in the highest degree dignified and magnificent, and of marvellous solidity and stability, but they were hurried up in an inconceivably short time. The same moral and intellectual qualities that had organized victory, had arranged combinations of strategy and tactics, had systematized the organization and administration of conquered provinces, made of the Roman the world's greatest builder. And where did he learn to build? He learnt it—he had to learn it—in the arduous struggles of an unending warfare. He learnt the art of building as he learnt the art of government and the art of legislation—on the battlefield and on the march. The fortifications of the camp had to be efficient, the soldier's life was at stake, yet they had to be thrown up speedily; night was closing in. How was this to be effected? Partly by utilizing the skilled labour of the legionaries themselves; but still more by requisitioning a horde of unskilled labourers from the surrounding district. So with the Roman builder. All he wanted was some intelligent gangers or foremen, a small number of skilled bricklayers and masons, and a vast horde of unskilled labourers to do the great mass of the work. In this way, and in this way only, it was possible to build quickly. Take his walls. First came a skilled artizan, who was to construct the outer and inner faces only, and the bonding-courses of the wall. If the wall was to be faced with brick, he was supplied with triangular bricks, or rather flat tiles. With these he rapidly built the faces of the wall, laying the tiles flat, with the long side of each tile outward. All the "Paddy" had to do was to shovel in mortar between the two faces, and lay on it layers of brickbats, rubble, flints, shingle, or the like, merely taking care to lay the big side of each downwards. If the walls were to be faced with stone and not with brick, the procedure was similar, except that the facing was composed of small stones tapering inwards, and laid with an edge downwards. Every four feet or so, the whole thickness of the wall was bonded with big square 12-inch tiles; sometimes these bonding tiles were 2 feet square. Never were such walls; you may see them at Pevensey, Colchester, Leicester, Verulamium. Gunpowder is almost powerless against them; nowadays, in modern Rome, they are blasted with dynamite. Not unfitly, the generic Roman of Latin prose composition, the well-known Balbus, is represented as ever engaged in building a wall.

The Byzantines.

Nor does Roman architecture end with the ruin of the Western capital at the hands of barbarian armies in the fifth and sixth centuries, as some have vainly thought. Byzantine is but Roman writ in Greek letters; Romaic, or East Roman, if you like. Byzantine work is but the application of Roman methods of construction in Hellenistic hands. It frees itself more and more from the paralysing "dead hand" of the academic Greek art of the Parthenon. It becomes original and beautiful, Hellenistic, in detail; but the methods of construction by which Hadrian had erected the Pantheon are, in the main, those by which, four centuries later, Justinian upreared the great metropolitan and patriarchal church of Santa Sophia, the glory of its own and of all succeeding times. Santa Sophia, also, in the all-compelling unity of the vast central dome, in its vastness of dimension, in its splendour and magnificence, reflects yet again the grandeur and glory of the imperialism of the later Roman. He has been called unimaginative; irresponsive, it may be, to the spirit that breathes in the highest forms of music, poetry, and art. But the master-art, architecture, in its noblest manifestations—not the petty prettiness of a sculptured capital or a subtle moulding, but the dignity and power, vastness, solidity, sublimity of a grand style—touched in the Roman breast a kindred chord. You may read yet in contemporary authors the impression made on its generation by this great church, bursting at once into view from the apses to the semidomes, from the semidomes to the central dome; while behind were changing vistas and intricate perspective and mysterious gloom in the far-withdrawn recesses of the aisles, half hidden, half revealed; all gathering into one stupendous dome, as the earth is held in the vault of heaven; glowing with colour; colour in the tesselated pavement, colour in the columns, colour in the sheets of marble inlay, colour in the acres of mosaic overhead; full of light and atmosphere, so that the mighty dome seems to be supported on the unsubstantial air, or, as Procopius says, as if suspended by a chain from heaven. Surely, if in the sixth century Byzantine architecture reflects national character, the East Romans were no unworthy successors to those who had built the Empire of the West. The Byzantines have been stigmatized by Gibbon and by his plagiarists as a race of effeminate decadent sensualists and cowards. Byzantine architecture tells a different tale. San Vitale and the church of St. Apollinare at Ravenna; the Byzantine churches in Greece, Turkey, Eastern Asia; the Mohammedan mosques and palaces, which, like the buildings of the modern Greek Church, are all Byzantine in origin, tell a different tale. The Byzantine Empire kept its head above the waters for a thousand years. For a thousand years it held the hordes of Asia at bay; for a thousand years it was the eastern bulwark of Christendom; but for Byzantine statesmanship and Byzantine valour, you and I to-day might be Mohammedans. The history of the Byzantine Empire is long, and often glorious. But it is neglected, or only noticed to be treated with contumely and contempt. I linger on the long and persistent services of Byzantium *because* they are neglected, despised, or forgotten. In that long history more than one great moral reformation, more than one great artistic renaissance, took place. One took place in the eighth century; another in the tenth. Both left their mark on the art and architecture of the times. Indeed, all the greatest exaltations of national spirit rush forth into the concrete embodiment of architecture. M. Bayet is of opinion that the Byzantine Empire was never so strong or so prosperous as between 867 and 1057. The great princes of the Macedonian house had a keener intelligence and greater energy than Justinian himself. Intrepid soldiers, able administrators, they developed the whole intellectual and material resources of the Empire of the East. The Empire defended itself bravely against invasions to the north and south; the Sclavs were beaten back, the Bulgarians checked, Cyprus and Crete and Cilicia were reconquered from the Arabs; on all sides Hellenised Rome regained part of the territory it had lost. The laws were revised; administration was reorganized; and, in the large towns, Saloniea, Thebes, Corinth, and the rest, industry and commerce brought a marvellous increase of wealth.

Constantinople was the entrepot and the medium of exchange between East and West, and thronged by foreigners. She had a University, with faculties of philosophy, rhetoric, and mathematics; from the University were drawn the chief dignitaries of the Empire. This renaissance extended to the arts, of which the emperors were earnest and munificent patrons. All this, too, is written in stone. Its worthy and its noblest record is that other great church, St. Mark's, Venice. For, when the old Basilica of St. Mark was destroyed or damaged by fire, it was rebuilt by Byzantine architects. This was at the time of the Norman conquest of England. St. Mark's, then, is a living embodiment of the history of the eleventh century, as it was in the East. See this great glory of Christendom, "rising like a vision out of the earth; all the great square opening from it in a kind of awe, that we may see it far away; a multitude of pillars and white domes, clustered into a long low pyramid of coloured light; a treasure-house, it seems, partly of gold, and partly of opal and mother-of-pearl; hollowed beneath into five great vaulted porches, ceiled with fair mosaic, and beset with sculpture of alabaster, clear as amber and delicate as ivory; sculpture fantastic and involved, of palm leaves and lilies and grapes and pomegranates, and birds clinging and fluttering in the branches, all twined together into an endless network of buds and plumes; and, in the midst of it, the solemn forms of angels, sceptred, and

robed to the feet, and leaning to each other across the gate; their figures indistinct among the gleaming of the gold ground through the leaves beside them, like the morning light as it faded back among the branches of Eden, when first its gates were angel-guarded long ago. And round the walls of the porches there are set pillars of variegated stones, jasper and porphyry, and deep-green serpentine spotted with flakes of snow, and marbles that, Cleopatra-like, half refuse and half yield to the sunshine their bluest veins to kiss; their capitals rich with interwoven tracery, rooted knots of herbage, and drifting leaves of acanthus and vine and mystic signs; and, above them, in the broad archivolts, a continuous chain of language and life, angels and the signs of heavens, and the labours of men; and, above those, another range of glittering pinnacles, mixed with white arches edged with scarlet flowers—a confusion of delight, amidst which the breasts of the Greek horses are seen blazing in their breadth of golden strength, and the St. Mark's lion; until at last, as if in ecstasy, the crests of the arches break into a marble foam, and toss themselves far into the blue sky in flashes and wreaths of sculptured spray, as if the breakers had been frost-bound before they fell, and the sea-nymphs had inlaid them with amethyst and coral." See this glorious church, and rewrite your history. The Byzantines were no puny race of emasculated sensualists. Here, as often, architecture writes true, and refutes false history. The Byzantine Empire was great, noble, and splendid while we were savages. If history withholds true record, the very stones do speak.

The Middle Age.

But we are barely half-way on our voyage down the stream of time. We have reached the dark waters of mediævalism. Here I cannot linger long. The collapse of the Western Roman Empire, and of the world-wide prosperity and comfort and happiness which it had so long assured for humanity, reproduces itself only too plainly in the poverty and degradation of architectural art. In Italy, for nearly three hundred years from 560 A.D., hardly a church was built. Late in the ninth century architecture at length revived; but it had to commence with the beggarly elements. In Milan, Verona, Padua, were laid the foundations of the great Romanesque style. Still worse was the lot of Northern Europe. In the South, the influences of Northern and Eastern barbarians, Goths, Visigoths, Vandals, Bulgarians, Hungarians, had, at length, settled down into organized communities, more or less civilized, more or less Christian. But, on the northern and western coasts of France, all round Great Britain, and on the east coast of Ireland, a new enemy, as destructive and as sanguinary as Goths and Vandals and Huns had been, now showed himself. It was the Viking. He left his mark on architecture. To take but a single instance: Armagh, the principal ecclesiastical city of Ireland, was attacked by Scandinavian pirates in the years 832, 839, 850, 873, 876, 890, 893, 895, 898, 914, 919, 926, 931, 943, 995, 1012, 1016. What did the poor Irish Christians do? At first they took refuge in their little churches; but these proved a vain protection. Priest and congregation were massacred together. Then they built a little round tower, after the manner of the towers of Ravenna, bonded into the church. But a tower, so placed, was of little avail against savage assailants clambering on to the church roof. Then they built their tower detached from the church, usually some 20 feet to the north-west; built its only doorway high up, 7 to 13 feet from the ground; and, drawing up their wooden ladder after them, were safe till the fury of the invader was over-past. So also in Western France, on the coast and along the river valleys, the architect had to be called in against the Northmen. But here, as in England, a different plan of defence was adopted. Instead of a detached round tower, a square tower was constructed, as a flanking-tower of defence to the west door of the church; very much after the fashion in which the entrance to the Norman keep of Norwich is fortified. For the same reason, the lower stage of the tower was made very thick, and without external openings. This seems to be the origin of the western tower common to thousands of our parish churches, but quite unknown to Early Christian architecture. But, when the fortunate congregation had ensconced themselves in their western tower, the Viking would have the shelter of the church—a very pleasant place for a bivouac—as those know who have slept and cooked in the churches in Icelandic travel. To make things unpleasant, then, for any Vikings who might wish to make themselves comfortable in the church, a loop-hole window—usually with balusters, as at Brixworth and Deerhurst—was contrived, from which, no doubt, the garrison of the tower enjoyed excellent sport with bows and arrows and spears and stones, while the furious heathen vainly raged below, not being able to get at the eastern door of the tower. To the same cause, I think—terror of the Northmen—is to be ascribed the fashion of setting the windows of our Anglo-Saxon churches very high up in the walls, as at Wing and Worth. But even this seems to have been insufficient. At Jarrow the Northmen would seem to have clambered up on one another's shoulders, and so forced their way into the chancel—high up and small as the windows were. Taught by the recurring catastrophes, the Jarrow monks reduced these small windows still further, filling them up with solid blocks, bored through with little holes, through which not even a Scandinavian baby could enter in. Enough has been said to show what a character for audacity and ferocity our Scandinavian cousins possessed in the tenth and eleventh centuries.

But, at last, Scandinavians too entered the fold of the Church. Then came what I think one of the most wonderful and interesting periods of all the world's history—the twelfth and thirteenth centuries—one of the most important and wonderful of all periods, and one of the most interesting. Only one other period is there of like import: it is that of the Renaissance. For the meaning of the Gothic and the Renaissance periods is that one is a deliberate and organized attempt to Christianize the world; the other to un-Christianize it, to make the world pagan again. You may say that long before the eleventh and twelfth centuries the world was Christian already; that from the time of Constantine, as far back as the fourth century, the world had been Christian; that from the fourth onward to the eleventh century the Church had converted tribe after tribe, nation after nation, till, after the conversion of the Scandinavians, hardly any heathen were left in Europe. That is so: the Church had increased in numbers—there were hundreds of thousands of professing Christians by the year 1000 A.D.—but what a Christianity was theirs! How little worth that Christianity had was patent from the history of five centuries—five centuries of injury and wrong, of violence and lust, and murder unrestrained. Where was the Christ? The Christianity of those centuries was only nominal. The next three centuries, the eleventh, twelfth, and thirteenth, devoted themselves to the task of making Christianity real. The so-called Christian world had been a veritable hell on earth; some would tell you that Christianity did more harm than good in those evil days. Now a determined and organized attempt was made throughout all Europe, for the first time, to make God's earth a happy earth; to realize, literally and in simple verity, the kingdom of heaven on earth. That is what those poor, uncouth, illiterate mediævalists were about. How can that be but a wonderful and interesting period, when mankind made its one vast collective effort to live up to the height and depth of the life of Christ? That is what twelfth- and thirteenth-century history means. And the Renaissance means the undoing of the work; the state of the devil who found the house swept and garnished and brought in seven other devils worse than the first. Well, you know something of what happened. At first it was a Church movement, a clerical movement. And the Church was of opinion that the likeliest way to bring Christianity into the daily life of men was to bring them to submit to a rule of life, and to live in brotherhood one with another. Multitudes did so. The greater monastic orders, such as the Benedictine, counted their monasteries by thousands. On the Witham, within a dozen miles, between Lincoln and Boston, there where monastic houses at Bardney, Barlings, Bolington, Kirkstead, Stainfield, Stirwould, Tupholm, Catley, Haverholm, Kyme, and Nocton, besides the College of Tattershall and the Hospital of Mere. Had the nobility of principles of the early days of the monastic movement persisted, the Church would have monasticised the whole of the laity. It really was within measurable distance of its goal. And, with the universal adoption of monasticism and the celibate life, there would certainly have been a drastic cure of the sufferings of poor humanity. For there would soon have been no humanity to suffer. Meantime, first the learned Benedictines, then the ascetic Carthusians, then those cultured Ritualists, the Cluniacs, then the stern practical Cistercians, equally opposed to Cluniac Ritualism and Benedictine culture, set to work to evangelize Western Europe. Everywhere rose magnificent piles; a mighty church, a vast refectory, a stately chapter-house, encircling the cloister's studious walk. The Benedictines built us cathedrals at Canterbury, Durham, Winchester, Chester, Ely, Gloucester, Norwich, Peterborough, Rochester, Worcester, and St. Albans. Of their abbeys, Westminster, Selby, Malmesbury, Malvern, Romsey, Sherborne, Shrewsbury, Tewkesbury, survive wholly

or in part; St. Mary's, York, Glastonbury, Lindisfarne, Reading, Tynemouth, and Whitby, are in ruins. The Augustinian canons left us Bridlington, Cartmel, Christchurch, Cirencester, Dorchester, Dunstable, Hexham, St. Saviour's, Southwark, Waltham Abbey, parts of which are still in use; Guisborough and Kirkham, which are in ruin. The Cistercians, who, of all the orders, did most for England in the last half of the twelfth century, have left us a glorious series of lonely ruins, Byland, Fountains, Furness, Kirkstall, Netley, Rievaulx, Roche, Tintern, Melrose. Not a single one of the noble churches of the Cistercian order is left for our use; part of the heavy price we paid for the Protestant Reformation. What a series of public schools, University colleges, convalescent homes, lunatic asylums, might have been housed in those vast and magnificent memorials of the art and of the piety of the twelfth century! But it was judged impossible to pull up the tares without the wheat, and now, indeed,

> The oracles are dumb;
> No voice or hideous hum
> Runs through the arched roofs in words deceiving.

Yet, for many a generation, they were nurseries of goodness. For timid natures they were a refuge amid the insecurity of life and property outside their walls. They offered shelter to the painter, the sculptor, and the scholar. They were the asylum of the aged; an earthly providence to the poor. Here the worn-out sinner repented of his sin; hither he fled from fear of hell, and gained assurance of salvation. Hither came the disappointed, weary of ambition; hither the heart-broken, after loss of wife and child; hither the pure in heart, fleeing from the horror of mediæval wickedness; those inviolable walls were the only refuge of maidenhood. Here alone could Christ's counsels of perfection be followed in all simplicity; here all were poor alike; it seemed to many a genuine return to the early socialism of the Apostolic brotherhood. It was a reaction against the selfish life—an honest attempt by abstinence and asceticism to purify the intellect and the heart. But base men, as well as good men, crept into the fold; and the glorious ideal of all the races of the earth living under one saintly rule of life in happy brotherhood was not to be realized; the golden age was not yet to return to earth.

After referring to the influence of French architecture in England, the lecturer continued:—

And, in our own dear nineteenth century, what reflects the national character? Do we recognise it in the "fussy pretentiousness of 'Queen Anne villadom'"; or in the achievements of the "gin-palace fitter"; or where architects do manufacture "picturesque grottoes of ancient relics," "like hermit-crabs," one of themselves has said, "trying to fit themselves into the empty shells of others," painfully labouring to use up the old bottles; "putting architecture on the level of heraldry"; so that there is a fear, as one of the greatest of them has written, lest, in the next century, architects "may be classed among prehistoric fossils and extinct species, such as astrologers, necromancers, alchemists, and men in armour." Truly they reflect the spirit of the age, but not of their own age. Another eminent man writes: "Architecture is a dead language." Does not the character and spirit of the age speak forth rather in the works of the engineer? I dare not say these things of myself. I quote from the mournful dirges of eminent experts. "The present pets of a dilettante world are the engineers. They are taken on their own survey, which is a high one. They toil in their offices at Westminster, and in all workshops of the North. They spin gossamers of lattice girders, in spans and altitudes inconceivable, before the wondering upturned gaze of mortal. Their corkscrew railways twist through the hard heads of mountains. They take their ironclads out to sea, where they occasionally leave them. Their virile force captivates an effeminate age. The appalling ugliness of the Forth Bridge has confirmed their claim to the awe and amazement of mankind. Therefore their credit is in the land, their reputation shall not be taken away. Kings distribute unto them titles; and the solemn chorus of the penny press shall exalt their name." Yes, when the long-delayed New Zealander at length arrives, we will not take him to see the new Law Courts or the St. Pancras Hotel; we will leave him on his lonely arch to contemplate the remains of London Bridge and Waterloo Bridge and the Thames Embankment—"Hae tibi erant artes, Romane."

In conclusion, let me apologise if, in some large measure, I have appealed to you rather as students of history than as teachers, and have passed the conventional limits which have been fixed for lectures delivered to members of your College. It is not good, I think, to be always teaching, or thinking of teaching, or talking about teaching. Pardon me if I have taken you somewhat further afield, to that more spacious scene where the movements of the great world-spirit find supreme expression in the master-art of architecture.

[*The lecture was illustrated by lantern-slides of classical and mediæval architecture.*]

The Chairman said that pictures such as had been exhibited on the screen were very valuable for the purpose of exciting in the pupils a keen interest in their studies, and it was still better, whenever possible, to bring the pupils face to face with the actual objects. Of course, every one could not visit places of interest abroad, but a great deal might be done in our own country. The impressions derived from an actual view of the original objects were, of course, more vivid and correct, and could be supplemented by pictures and diagrams of objects which could not conveniently be visited. The Battle of Waterloo, for instance, could be easily and vividly explained by diagrams showing the positions of the troops at the beginning and at different periods of the fight. Unfortunately, teachers were rather reluctant to take the trouble of preparing diagrams; but, if they would do so, he was sure they would not only teach themselves a great deal, but through themselves they would be able to teach others. He would like to make a practical suggestion. Why should not the College of Preceptors formulate a scheme whereby some of its members might gather together, and, under the guidance of some competent authority, be able to see for themselves some remains of ancient London? Such excursions would be of considerable interest and value to teachers, because what they might learn from one subject might be applied to others.

Miss Crombie remarked that she had herself adopted the plan of taking her pupils to see various places of interest in London, and had found it very successful. It was exceedingly useful to stimulate the interest of the pupils by a description of the various objects before the visit was paid.

Mr. Mundy considered that pictures offered the best means of appeal to the imagination. It would be impossible to take people round to see all those various places, but on the screen they could be passed very rapidly. He thought the lecture would prove very useful if put in the form of a text-book accompanied by the pictures. He would like to put in a plea for British architects, as he considered there had been a very great improvement in architecture in this country in the last thirty years.

Mr. Bolland entirely agreed with the suggestion that had been thrown out as to personal visitation of places of interest. He believed there was a society which lent out to its members pictures illustrative of historical facts.

The Lecturer said that, while one had necessarily to rely to a large extent upon the camera when dealing with foreign places of interest, Londoners were very fortunate in having a vast store of ancient architecture within easy reach, and he would like to submit the following list of places to be visited in connexion with the study of architecture:—

Architecture of eleventh century: St. John's Chapel in the Tower of London; and St. Alban's Cathedral.
Early part of twelfth century: St. Bartholomew, Smithfield; and Waltham Abbey.
Later part of twelfth century: Temple Church.
Early part of thirteenth century: St. Mary Overie, Southwark.
Later part of thirteenth century: Westminster Abbey; and St. Etheldreda's Chapel, Ely Place, Holborn.
Fourteenth century: Austin Friars Church, E.C.
Fifteenth century: Westminster Hall; and St. Andrew Undershaft, Leadenhall Street.
Sixteenth century: Charterhouse, E.C.
Seventeenth century: Wren's Churches—St. Paul's, St. Mary-at-Hill, St. Magnus, and St. James, Piccadilly.
Eighteenth Century: Gibbs and Hawksmoor's Churches—St. Mary's, Strand, and St. Martin's-in-the-Fields, and Somerset House.

A vote of thanks to the lecturer concluded the proceedings.

SIMPLICITY IN POETRY.

[Delivered at a Grammar-School Literary and Debating Society.]

There is a story told of some children living in an enchanted land who used to play carelessly with what they supposed were worthless pebbles, until one day a traveller came and told them that those stones which they counted as nothing were indeed jewels of great value. Indifference arising from ignorance, or undue familiarity, is not by any means confined to material objects; in matters of taste also the truth of the proverb is seen—"Familiarity breeds contempt." How many boys and girls there must be in the schools of our land who at some time or other have had set them as a repetition lesson Cowper's well-known lines on the "Loss of the Royal George"! They probably think them absurdly easy, and fit only for children of tender years, which

they will smile at as they grow older. But Mr. Palgrave says of this little poem: "For tenderness and grandeur under the form of severe simplicity these verses have few rivals. They are Greek after the manner in which a modern English poet should be Greek. Readers who admire them are on the right way to high and lasting pleasure."

Now, if we will but consider the matter, it is more probable that Mr. Palgrave is right in his opinion, and that we, who are somewhat disposed to underrate this poem, are wrong. For Mr. Palgrave, besides holding a very honourable place amongst the poets of the present generation, stands in the front rank of critics in art and literature, and whenever he speaks out on these subjects we ought to listen to him with respect. Let us then for a few moments examine this poem in detail, and see whether we can discover for ourselves "the tenderness and grandeur under the form of severe simplicity" which the critic commends. And first of all we will make a few remarks on what is meant by *simplicity* in poetry. A poem is properly said to be *simple* when the emotions it stirs, or the feelings of pleasure and pain it calls forth, are such as are common to all men alike, and which therefore all may share in. But there is another point to observe about *simplicity* in poetry, and that is the manner in which it shows itself. If we examine the best poems in any literature most conspicuous for this quality, we shall find that, when they are describing a scene or an emotion, they will do this in the most direct way possible; each word will be carefully selected that there may be no doubt as to what meaning is intended to be conveyed, and the necessary number of words for conveying the required impression will be used, and no more; there will be no superfluities, no indulging in flights of fancy which may tend to obscure the meaning, no playing with fine words for the mere sound alone; in short, the language of the poem will be adequate to the occasion.

Mr. Palgrave speaks of the severe *simplicity* of its form. How is this shown? In this way: its language and versification are adequate to the occasion. The "Royal George," at that time the finest ship in the navy, was accidentally overturned whilst undergoing repairs off the coast. A British admiral and nearly one thousand seamen were drowned. The event was justly regarded as a national calamity, and a whole nation mourned its loss. There is an awful silence in all heartfelt grief—words seem totally inadequate to express the sorrow that is surging below; or, if the burden of silence grows intolerable, it will find expression in the briefest ejaculations. The sympathy, too, which such a grief demands will be undemonstrative; many words, even though kindly uttered, will serve only to widen and aggravate the wound. If this is the case with individual sorrow, how much more when a whole nation is thrown into mourning, when not one, but many hearts are wrung with a sense of unutterable loss, the difficulty is increased of finding words that shall adequately express not only one's individual sense of desolation, but the inarticulate motions of despair that are agitating thousands of hearts! The very occasion was an unwritten poem—the employment of verse could hardly have added to its poetical character and significance, which all could feel. How, then, has the poet treated his subject? He has presented us in the most direct way by a series of simple and touching pictures the scene of the catastrophe as it presented itself to his imagination: there are no violent expressions of grief and despair; all is calm and restrained, and yet the thrilling pathos of the situation is fully brought out. The monotone of grief is admirably rendered in the short lines, at the close of every one of which the voice is almost compelled to pause with slowly dying cadence, like the muffled peal of funeral bells. It is a characteristic of sorrow that, though it may be for a time diverted from its object, it continually passes back again to the thought of its particular loss. Read Stanzas i., iv., and ix., and you will see how grief reiterates itself:

(i.) "Toll for the brave!
The brave that are no more . . ."

(iv.) "Toll for the brave!
Brave Kempenfeldt is gone . . ."

(ix.) "But Kempenfeldt is gone,
His victories are o'er . . ."

Again, Mr. Palgrave speaks of the *tenderness* of the poem. How is this shown? Chiefly, is it not, by the way in which the poet brings vividly before us the pathos of the situation, and the little human touches by which he contrasts and intensifies it? What an importance the most trifling acts and sayings assume in the retrospective memory when the author of them is dead! Thus the poet does not fail to remind us that, when the disaster occurred, the admiral's sword was laid by, and he was engaged in the simple act of writing. A gentle spirit of the most tender irony pervades the whole piece. The ship had weathered many a storm, and fought England's battles at sea. It was a *land* breeze which overturned her, and in the calm waters of one of England's roadsteads. All the bravery of the crew could not save them from their fate; nay, might it not, in a sense, have contributed to their ruin, for had not obedience to orders, which the discipline of active service produces,

"Made the vessel heel,
And laid her on her side"?

But the tenderness and pathos of the poem are nowhere better shown than in the last three stanzas. In the midst of grief arises the thought that the good ship is not actually lost to the service; she may be raised by mechanical means from the bottom of the sea—

"Her timbers yet are sound,
And she may float again."

Then, immediately, to check the current of exalted feeling, the thought of the transitoriness of human life as compared with the durability of material objects succeeds, and the poem closes, as it began, with the sounding of the funeral knell over the brave souls thus suddenly snatched away—

"But Kempenfeldt is gone,
His victories are o'er,
And he and his eight hundred
Shall plough the waves no more."

Finally, the critic speaks of the *grandeur* of the poem. Where are we to seek for this? Is it not to be found in the ardent spirit of patriotism which pervades and gives dignity to the whole? The poem is intensely national in feeling; it appeals to sentiments dear to all Englishmen—love for the sea, and for the sea as the chief bulwark of England's freedom, and the scene of her glorious exploits. It is this which intensifies the grief for the loss of Kempenfeldt—

"His last sea-fight is fought,
His work of glory done."

It is the thought of England's dependence upon her sailors which inspired the hope that the good ship might yet again be fit for service—

"Weigh the vessel up,
Once dreaded by our foes.
. . . . . .
Her timbers yet are sound,
And she may float again,
Full charged with England's thunder,
And plough the distant main."

What a combination of *grandeur* and *tenderness*, too, is there in the lines in which the poet invokes his countrymen to let the fate of the brave souls who perished enter as a solemnizing thought on the occasion of festivities held to celebrate any of England's victories! Let us, he says—

". . . mingle with our cup
The tears that England owes."

Mr. Palgrave has another word of praise for these verses. He says: "They are Greek after the manner in which a modern English poet should be Greek." This is quite true; not, of course, in the sense that there is any conscious imitation of Greek poetry, but simply on account of their possessing those characteristics which the critic so justly praises, *i.e.*, "tenderness and grandeur under the form of severe simplicity," for in no other poetry are these two qualities exhibited in more complete perfection than in the poetry of ancient Greece. The famous passage in the "Iliad" describing the visit of the aged Priam to the tent of Achilles, to beg the body of Hector from the man that slew him, is a conspicuous example of those very qualities of genuine poetry which, as Mr. Palgrave truly says, conduce to "high and lasting pleasure." For the heart of man is the same in all ages, and speaks a universal language. Sorrow and death are with us still, parental anguish is as poignant now as it was in the time of the ancient Greeks, and the natural and spontaneous expression of it unites both the present and the past with one throb of human sympathy. After reading poems, or passages from poems, which possess this dateless character we are ready to exclaim with Wordsworth: "Thanks to the human heart by which we live."

C. Fisher.

REVIEWS.

The Reformation Schools.

English Schools at the Reformation, 1546–8. By Arthur F. Leach, M.A., F.S.A. (Constable & Co.)

"Never was a great reputation more easily gained and less deserved than that of King Edward VI. as a founder of schools." Thus Mr. Leach announces a complete reversal of a traditional opinion. It must be admitted that he supports his views in great detail, upon a first-hand examination of original documents and an independent and incisive criticism. He wisely puts before his readers the means of following his argument and judging for themselves as to its sufficiency. About two-thirds of this volume is devoted to a reprint of pertinent documents—the Commission of Inquiry, the Commission for Continuance of Schools, &c., and extracts from a very large number of Certificates and Warrants under the Chantries' Acts, 37 Henry VIII. c. 14, and 1 Edward VI. c. 4. The preliminary matter, occupying about one-third of the book, deals with the significance of the facts, under about a score of heads. Mr. Leach does not, of course, profess that his investigation is complete, in the absence

of much necessary material. But, so far as the available materials go, he comes to decided conclusions. He definitively dethrones King Edward VI. from his pride of place as the founder of our national system of education, even by proxy. The only foundation with which Edward VI. is even reported to have had any personal connexion is Christ's Hospital, and that institution was founded, not as a grammar school, but as a foundling hospital, and Edward gave it little but his name. And as for his ruling councillors, they, says Mr. Leach, "can at least claim the distinction of having had a unique opportunity of reorganizing the whole educational system of a nation from top to bottom, without cost to the nation, and of having thrown it away."

Henry VIII. cannot be charged with any intention to damage education. But he was in straits for money. Other people, it was found, were devouring the chantries without license; why, then, in the intolerable drain of the wars, should not the King rather put the plunder in his own sack? That is the substance of the argument of the first part of the Chantries' Act, 37 Henry VIII. c. 4. The second part deals with unsuppressed institutions. It does not give the colleges and chantries to the King out and out at once, as the first part does; it only empowers him to issue commissions and take what he pleases. Only such chantries, hospitals, brotherhoods, and guilds as were liable to first-fruits might be dissolved, but all colleges might be destroyed, whether they paid first-fruits or not—and so the colleges in the Universities, and Winchester and Eton, which only ten years before had been expressly treated as non-ecclesiastical, "were deliberately swept into the net." It may be that the purpose was to sweep away the "superstitious uses," and thereafter to refound the colleges. Anyhow, the Act passed in 1545 or 1546; Henry apparently took a turn of reaction, and died in January, 1547; and the power to seize the chantries died with him unexecuted.

A new Act was therefore necessary. The advisers of Edward VI. based their action, not on lack of money, but on religious opposition to the objects of chantries. Much might be advanced in justification of that view. The Act of Edward apparently intended that the same Commissioners should first inquire into and then continue the schools, giving them either their former lands or other lands in order to form an adequate endowment. But this intention was not carried out. Two separate Commissioners of Continuance were appointed, Sir Walter Mildmay and Robert Kelway (a lawyer whose name is still known in the courts as the compiler of a series of law reports). Their commission was pretty comprehensive, and the schools were "made quite a subordinate part of the business they had to do." The fatal part of their commission, as stated by Mr. Leach, was this:—

"And forasmuch as present order and direction cannot be had and taken for and concerning the said grammar schools and preachers, and for the continuance and alteration of the same," and all the rest of it: "our pleasure is that so much money as heretofore hath been yearly employed towards the maintenance of any such schools, preachings, schoolmasters," &c., "shall be paid from Easter last to the sustentation of the same in such manner as the same has been used to be paid, until such time as other order and direction shall be taken therein, in manner afore rehearsed." And so they were directed to issue their warrants accordingly, on the strength of the certificate of any of the said auditors or particular surveyors, or any of their deputies. It therefore came down to this, that the question of schools was really settled by the clerk of a person who occupied the same sort of position as a local agent of the Woods and Forests now. He took out of the certificates what schools were kept and were to be kept, and Mildmay and Kelway signed the warrants, which the deputy of a deputy of a deputy drew up. . . . In such a fiasco ended the great promises of Henry to his Parliament, and the expressed will of the Parliament of Edward VI., for the reform of the chantries and the advancement of learning. For most of the schools the "other order" never came.

The value of the "so much money as heretofore hath been yearly employed towards the maintenance of any such schools," &c., steadily fell; and the painful illustrations cited by Mr. Leach may be commended to the study of those who laud Edward VI., and who approve of piecemeal interference with a comprehensive existing system.

Mr. Leach gives an interesting sketch of the various classes of schools of the time—schools connected with cathedral churches, with monasteries, with collegiate churches or colleges, with hospitals, with guilds, with chantries, as well as independent schools, unconnected with and in no way dependent upon other such institutions. He speaks of the re-foundation of certain schools in consequence of the dissatisfaction prevalent on the outcome of the Acts. "By their wealth and by their good works," he points out, "we can measure the loss sustained by their contemporaries and compeers, which were restricted to a fixed sum, adequate in some cases at the time, but long since shrunk into a miserable pittance." He shows that many of our existing schools go back not simply to Edward VI., but to a remote antiquity. "Grammar schools, instead of being comparatively modern post-Reformation inventions, are among our most ancient institutions, some of them far older than the Lord Mayor of London or the House of Commons." The records he reprints, which are by no means complete, show close on two hundred grammar schools in England before the reign of Edward VI., "which were, for the most part, abolished or crippled under him." He thinks three hundred is "a moderate estimate of the number in the year 1535." "Most of them were swept away either under Henry or his son; or, if not swept away, plundered and damaged." Much interest will be found in the treatment of the statistics, from the documents now published, as to the number and character of the schools, and the educational payments. Taking the bare stipends, "the average pay of a schoolmaster works out at £6. 9s. 6d. a year." "In the Edward VI. re-foundations, £20 a year seems to have been the standard aimed at, which, with outgoings for repairs, allowance for an usher, and the like, would give about £12 a year to the headmaster. That is about the sum the larger schools, though not the largest, paid before the Reformation." "The school and University exhibitions absolutely disappeared. Most of the latter were perversions, excellent perversions, of the original foundation." As to the numbers in attendance, Mr. Leach has some very striking remarks. "The proportion of the population which had opportunity of access to grammar schools, and, as we can see, used their opportunities, *was very much larger then than now*." The italics are ours. There is very little direct information in the records as to what the boys learnt. But Mr. Leach pieces together a good deal of suggestive matter. As to Latin, he concludes that "for all practical knowledge of the language, for readiness in reading, in writing, and still more in speaking, Latin, the young Beckets, or Mertons, or Wolseys, might be safely pitted against their modern successors." At Ipswich school, he shows from Wolsey's statutes, the boys "were also to learn *précis*-writing and to write essays." The whole programme at Ipswich he declares to be "a much more liberal *menu* than that provided by Colet, ten years or so before, for St. Paul's School." As to the classes in attendance, "it was the middle classes, whether country or town, the younger sons of the nobility and farmers, the lesser landholders, the prosperous tradesmen, who created a demand for education, and furnished the occupants of the grammar schools." Apparently we have not made appreciable extensions yet in England, although the labouring classes are no longer serfs, and although Parliament does not now petition the Crown against their being allowed to go to the Universities or schools. Let our Minister of Education give an occasional glance at what is doing in Scotland or Germany. Meantime, it will be seen that Mr. Leach has produced a work of substantial original research, of extreme interest in varied directions, and of much historical importance and practical suggestion.

An Introduction to Chemistry.

An Introduction to the Study of Chemistry. By W. H. Perkin, Jun., Ph.D., F.R.S., and Bevan Lean, D.Sc., B.A. (Macmillan.)

We welcome this book as containing the best treatment of chemistry as an *educational* subject that we have yet seen, and one in which all the old traditions of science-cramming are finally thrown to the winds. The two main guiding principles of its construction are given by the authors in their preface—(1) that the methods of gaining knowledge are of greater importance than the knowledge itself; and (2) that "the order in which problems have presented themselves to successive generations is the order in which they may be most naturally presented to the individual."

The first of these propositions has received plenty of nominal assent in recent years, but this is the first English book we have seen in which it is not forgotten sooner or later in the course. The second proposition is quoted from Professor Miers' inaugural address at Oxford, in which the historical method of teaching is justified on Darwinian principles. We have ourselves urged its advantage on another ground, viz., that it avoids the dangers of dogmatic teaching, the absence of which has always been put forward as one of the main claims of science to a place in education, though the claim has not hitherto justified itself in many cases. The boy who is *told* that oxygen combines with substances when they burn, even if he is afterwards shown

and made to perform experiments illustrating this fact, is thereby distinctly encouraged to receive text-book statements as revelations, and is at an intellectual disadvantage as compared with the boy who has first been asked what he thinks combustion may be, then told of the ancient notions about fire, and led on to analogous (or even identical) experiments with those by which those notions were disproved.

Of course some modification of a rigid historical sequence is necessary, in view of the fact that the modern child is familiar from infancy with the applications of scientific discoveries not dreamed of at the corresponding stages in the evolution of the race; but this does not alter the importance of the historical principle as a general guide. In chapter i., "The Birth of Chemistry," the notions of the alchemists are illustrated by a few experiments, and it is pointed out that their ideas were unchecked by careful *measurement*, with serious results. Accordingly, the next seven chapters are devoted to the metric system, and measurement of length, area, volume, and mass, temperature, density, and atmospheric pressure. Chapter ix. deals with the fitting-up of apparatus, and the following six with liquefaction and solidification, vaporization and condensation, calorimetry, solution, and crystallization.

It may be said that much of this is out of place in a work on chemistry; yet the study of chemistry proper would be impossible, or at least sadly hindered, without such previous work. Of course, the exact scheme followed by any particular teacher will always be conditioned by what his colleagues are teaching in other subjects, and much of the above work might very properly be handed over to the care of the teacher of physics, if he has a separate existence from the teacher of chemistry. In preparing a book for general use, an arbitrary line must be drawn somewhere. The present authors draw it above elementary mathematics: they recommend all students who "have not yet mastered the elements of arithmetic, decimals, the unitary method, percentages, and proportional parts . . . to close this book and go back to their ciphering." The authors have evidently adopted the same attitude as did Professor Huxley in the teaching of biology when he decided that "from the known to the unknown" was a sounder rule than "from simple to complex." The ordinary text-book writer still clings with pathetic faith to the latter method. Atoms are the simplest things—therefore begin with atoms; treat of elements before compounds, and of binary compounds before more complex ones—such are his logical deductions. The present authors, following the historical method, reverse this order, as is sufficiently indicated by the title and first sub-title of chapter xvi., "Raw Materials: the Earth is the Chemist's Storehouse." Such common minerals as salt, chalk, limestone, and iron pyrites are first taken, and are dealt with in a broad geological spirit, not merely as specimens on the laboratory shelf. Then the student is led on through the common acids and alkalies, "fixed air," fire, rusting, &c., to the work of Priestley, Cavendish, and Lavoisier. Even the old name of a substance is used until the stage when the modern name was actually applied; "fossil names mark the progress of a science," just as fossils mark the history of life. Then, as a more elaborate piece of research, Black's investigation of chalk is followed through systematically. The last few chapters lead up to the law of definite proportions, and here—with a hint at that of multiple proportions—the work comes to an end. No "list of elements with atomic weights," not a word anywhere about symbols and formulæ. The distinction between compounds and mixtures, and the meaning of "elements," are left to the last chapter, where by reference to work done they can be explained in a more meaningful and more scientific way than is possible in the usual opening chapter. Similarly the indestructibility of matter is not laid down as a dogma, but is only mentioned after it has been several times *assumed* in actual experiments (pages 194, 316).

The whole book shows signs of the greatest care in preparation. There is an unfortunate misprint on page 24, where, in the list of weights, ·001 is twice put for ·01. On page 141, lines 9 to 11 might be rather more clearly worded, the "it" being ambiguous. But these are trifles, to be corrected in a second edition. The authors evidently expect that second edition to be called for soon, since they express the intention of including in it "chapters, which are already in hand, on the Discovery of the Metals, on the Diffusion of Gases, and on Fuel and Food Stuffs." If the sale of a book were proportional to its merits (alas! for the *if*), their anticipations should be justified. For the sake of science teaching we trust they may be. The new Rules for Organized Science Schools, and the extremely sensible report which the Sub-Committee on the Teaching of Chemistry has recently presented to the Technical Education Board of the London County Council, are indications that the demand for books like this will increase. We will do what we can to help that increase by heartily recommending this book to all schoolmasters and science teachers who desire to utilize experimental chemistry as a really educational subject.

Handbooks of Literature.

(1) *A Manual of English Literature, Historical and Critical.* By Thomas Arnold, M.A. Seventh Edition Revised. (Longmans.) (2) "Handbooks of English Literature." Edited by Professor Hales.—*The Age of Wordsworth.* By C. H. Herford, Litt.D. (Bell & Sons.) (3) *English Literature from A.D. 670 to A.D. 1832.* By Stopford A. Brooke, M.A. (Macmillan.)

(1) Professor Arnold's *Manual of English Literature* is too well known and too widely accepted to need any fresh description of its method or of its useful qualities. It is amongst the very best of the longer treatises, and has no superior amongst the scholarly works which combine the critical literary treatment with a close and compact educational plan. In this new edition the author has added somewhat to his chapter on Early English in acknowledgment of the recent labours of Skeat, Ten Brink, and Furnivall. The Elizabethan section is almost entirely re-written; a matured view has been taken of the arrangement of Shakespeare's plays, and of the characteristics of his dramatic genius. Other improvements of a less substantial kind have been introduced, and the *Manual* is brought well up to date, The critical section is in many respects the most valuable portion of this excellent work, for it advances from the general record of books, authors, and facts to an argumentative and well-illustrated survey of our national literature.

(2) In acknowledging last year Dr. R. Garnett's "Age of Dryden," we welcomed this new series of literary studies, designed by Professor Hales, not only on account of the authors selected to carry out the idea, but also because the grouping of literary activities round eight leading English writers promised a certain amount of original and unhackneyed treatment. No doubt the plan has its drawbacks, and no single and exclusive form of arrangement could be entirely satisfactory. The scheme of the series, for instance, includes "The Age of Dryden," "The Age of Pope," and "The Age of Johnson," whilst all the fecundity of our literature from the Johnsonian epoch down to our own times is to be embraced in two groups surrounding Wordsworth and Tennyson. Professor Herford, indeed, takes up his parable in the year 1798, and extends his survey over thirty-two years, which supply him with ample, though perhaps not excessive, material. His arena, of course, is mainly that of Romanticism, and he divides it into "Revolutionary or Ideal" and "Conservative or Realist Romanticism." He deals in succession with speculation in science and politics, with the dawn of spiritualism in theology, and with the new constructive history; with the critics and essayists; with the expansion of the novel, including Godwin, Austen, Scott, and Peacock; with the drama, and with poetry. The poets are sub-divided into three groups, associated with the names of Wordsworth, Scott, and Shelley—the last group comprising Shelley and Keats. Professor Herford has done his best, but he has not very closely adhered to the plan of previous volumes of the series. He recognised at once that "no title can adequately label a period so immensely rich in achievement as the first thirty years of the present century." Once engaged in detail, he becomes intensely interesting to a reader of literary culture, and provides us with a luminous guide to a period which Mr. Theodore Watts-Dunton has aptly characterized as "The Renascence of Wonder."

(3) Mr. Stopford Brooke has partly re-written, and largely revised and corrected, his well-known "Primer," a scholarly abstract of an immense subject, which has secured the appreciation of all competent judges. It is, in fact, an adequate and a pleasantly written history of English literature, so compact and yet so thorough that, once imbibed and assimilated, it would answer the purpose of nine-tenths of those who seek to make themselves acquainted with English books and authors in all ages.

An Old Land and a New.

"Story of the Nations."—(1) *The Balkans: Roumania, Bulgaria, and Montenegro.* By William Miller, M.A. (2) *Canada.* By J. G. Bourinot, C.M.G., LL.D. (Fisher Unwin.)

(1) Mr. Miller's volume is unusually attractive. He has, in some respects, broken fresh ground, and in any case his historical sur-

vey of the Balkan States is full of interest for readers who have heard more than enough about the Danubian principalities in the nineteenth century, but know next to nothing about their earlier annals. The author not only comes to his task equipped with knowledge of the country itself and of its ancient and modern history, but he also writes pleasantly and with good judgment, if without any great distinction of style. The fortunes of the various countries are traced from Greek and Roman times down to the present day; and no history could be more effectively varied between the extremes of glory and degradation, or more full of dramatic situations. The early vicissitudes of Roumania, which include its colonization by Romans in the reign of Trajan; the exploits of Michael the Brave, of the Emperor Dusan, of Simeon and Samuel, of Kara George, and other Balkan heroes; and the whole famous story of the Black Mountain, so often a refuge and a bulwark of Christianity against the barbarian Turk, are specially attractive sections. This book must certainly be reckoned amongst the more serviceable and successful volumes of the series to which it belongs.

(2) Another volume in the same series is one on Canada. The author, Dr. Bourinot, has ably performed the task for which his previous labours as an archæologist, and his present position in the Canadian House of Commons, well qualified him. It is now three centuries and a half since Jacques Cartier, of St. Malo, gave Europe the first precise information about the new country, the noble river he had been the first to explore, and the mountain that he had named Montreal, from the summit of which he had been the first to gaze at the noble panorama of river and forest that lay between the Ottawa and the St. Lawrence. The point that will most forcibly strike an Englishman of to-day is the extraordinary supineness of the French Government in following up this beginning. The story of the French settlers on the banks of the St. Lawrence and on the shores of Acadia, now Nova Scotia, the country immortalized in the most beautiful of Longfellow's poems, is more creditable to the pluck and enterprise of French settlers than to the foresight of French statesmen. Cardinal Richelieu was the first to recognise the possible importance of these possessions.

Among the most interesting chapters of this book are those describing the Huron and the terrible Iroquois Indians, and the attempt of the devoted Jesuit missionaries to convert them. "They would give sugared water to a child, and, apparently by accident, drop some on its head, and at the same time pronounce the sacramental words." Some of these missionaries were tortured with the most horrible refinements of barbarity. Their brethren could but retaliate by sending home for pictures of devils tormenting *souls* with serpents, pincers, &c., for "such holy pictures are most useful object-lessons for the Indians." Interesting as this is, and as is the account of the great struggle that gave Canada to our rule, the most original and important part of this history is that dealing with events during this century. "I found," said Lord Durham in 1839, "two nations warring in the bosom of a single State: I found a struggle, not of principles, but of races."

For an account of the strife and rebellion, that were in due time succeeded by responsible government and the Federal Union, that is, for an account of the growth of the Canadian nation and of its principal makers, and of its present position now, we must refer the reader to this full and carefully-composed volume.

Elizabethan Mythology.

The Sources of Spenser's Classical Mythology. By A. E. Sawtelle, Ph.D. (Silver, Burdett, & Co., Boston, U.S.A.)

Miss Sawtelle's exhaustive and, we should fancy, exhausting inquiry into Spenser's mythology was undertaken as a thesis for the degree of Doctor of Philology in Yale University. She has entered upon a field of labour in which she has few predecessors, and it may be doubted whether many scholars will be tempted to follow her lead. The mythology of Greece and Rome was part of the stock-in-trade of Elizabethan writers, and for classical students the frequency of classical allusions in the Elizabethans may perhaps lend an additional charm or piquancy to their works; but we must take leave to doubt whether a particular author's mythological references are worth detailed treatment in a monograph. Nevertheless it is abundantly evident that Miss Sawtelle has more than earned the degree that she sought. She has wandered very far among the classics, and she has noted with minute care just how far Spenser agrees with his originals, what he has added of his own, his errors, and his amplifications.

Professor A. S. Cooke, who contributes a prefatory note to this book, expresses a hope that the work may find a place in schools and colleges. We confess that we can scarcely share that hope. If Miss Sawtelle had written a book upon the influence of classicism upon the age of Elizabeth, or even upon Spenser alone, there might have been some hope of a sale in places where English literature is intelligently studied. But mythology is not classicism—it is not even, as Miss Sawtelle seems to regard it, scholarship. There is the relation of the poet to Greek philosophy; there is the reconciliation of paganism with Christianity—that literary gnosticism in which the Elizabethans move with such ease, and which reminds one in some sort of the deft amalgamation of Christianity and paganism to be found in Ausonius. Mythology, mediævalism, philosophy, and religion jostle one another—or, rather, exist together in a wondrous harmony—in the work of the Raphael of the poets, and these, in their bearing on him, can scarcely be studied separately with real profit. Spenser's mind is, in fact, the crucible into which all these apparently opposing elements were cast with such exactness that in him for the first time they amalgamated with a thoroughness that in the case of Chaucer had not been obtained. He is constantly writing passages like the following:—

> Both Silo this and Jordan did excell,
> And th' English Bath, and eke the German Spau;
> Ne can Cephise nor Hebrus match this well:
> Into the same the knight back overthrowen fell.

If Miss Sawtelle's method were adopted, the student would require at least three monographs to elucidate these four lines.

SHORT NOTICES.

CLASSICS.

The Anabasis of Xenophon, Book II., edited by G. M. Edwards, M.A. (Cambridge University Press), is equipped with an excellent introduction, simple notes, and vocabulary. Mr. Edwards has made a judicious use of Grote's narrative, and it is pleasant to see an edition of the *Anabasis* that is not calculated to inspire the young student with a loathing of Greek in general and of the amiable Xenophon in particular.

We cannot speak in equally high terms of Mr. T. T. Jeffery's *Xenophon, Cyropædeia*, Book I. (W. B. Clive). The introduction, indeed, is quite satisfactory, but the grammatical notes are not always as scholarly as they might be. Thus, καλῶς ἐποίησας, with participle, should be rendered, not "You do well to," but "I thank you for." It is not correct to say that for "ὁποίαν βούλει ὁδόν," "ὁποίαν ἂν βούλῃ" might have been expected, for everyone knows that ὅτι βούλεσθε and ὅτι ἂν βούλησθε exist side by side. There are not two, but three, ways of expressing *oratio obliqua* in Greek. We do not, however, intend to imply that Mr. Jeffery's book altogether lacks merit. Though occasionally inaccurate, the commentary is business-like and commendably brief.

Rivington's Single Term Latin Readers (Rivington, Percival, & Co.) are arranged to cover six terms. They start with the easiest possible sentences, and go up to selections from Cæsar and Ovid. It is rightly claimed for the arrangement that "boys removed into a higher class will commence work on a fresh book, instead of, perhaps, on the middle of a book that was in use in that class the previous term." The series is well graduated, and merits a trial in preparatory schools or lower forms of public schools. It should be understood that no grammar is included in the readers.

MATHEMATICS.

(1) *New Decimal Coinage, with Reference Tables of Exchange.* By J. Lingham Lees, B.A. (Relfe Brothers.) (2) *Number and its Algebra.* By Arthur Lefevre, C.E., Instructor in Pure Mathematics in the University of Texas, U.S.A. (Isbister.) (3) *Advanced Mechanics, Vol. II.: Statics.* By William Briggs, M.A., F.C.S., F.R.A.S., and G. H. Bryan, Sc.D., F.R.S. ("The Organized Science Series." Clive.) (4) *Mensuration for Beginners.* By F. H. Stevens, M.A. (Macmillan.) (5) *Mathematics made Easy.* By the Rev. J. J. Raven, D.D., F.S.A. (Jarrold & Sons.)

(1) This little book of thirty-six pages is very clear and eminently practical in its suggestions. It shows with what ease our present coinage could be changed to a decimal coinage. It suggests that there should be five coins, the sovereign, florin, nickel, farthing, and penny (equal to four farthings). These would clearly not be sufficient for all purposes. We should be inclined to add five others, the half-sovereign,

crown (a gold coin), shilling, tanner, and half-penny. The money table would then run as follows :—

Smallest coin	= 1 farthing,
2 farthings	= 1 half-penny,
2 half-pennies	= 1 penny,
2½ pennies	= 1 nickel,
2½ nickels	= 1 tanner,
2 tanners	= 1 shilling,
2 shillings	= 1 florin,
2½ florins	= 1 crown,
2 crowns	= 1 half-sovereign,
2 half-sovereigns	= 1 sovereign.

Or, leaving out intermediate runs, we should have—

10 farthings	= 1 nickel,
10 nickels	= 1 florin,
10 florins	= 1 sovereign.

E.g.—£11. 0 *fl.* 6*n.* 7 *f.* = £11·067.

The values of all coins above the nickel would be exactly the same as at present. The only change required would be to introduce the nickel = 2½d. in the place of the threepenny piece, and to make an almost inappreciable alteration in the value of the farthing. This alteration in value is best seen in the tanner, which is equal to 6d. of our present money, but would be equal to 6¼d. of the new money. It is certainly most desirable, if we are to have a decimal system of weights and measures, that our coinage should at the same time be changed to a decimal coinage.

(2) There are some good points in Mr. Lefevre's book; but it seems to us that the author has hastily published his manuscript notes with scarcely any revision or editing. What might have been a very useful book is thus made practically valueless. It is three times too long, and on every page we meet with sentences which are fantastic or obscure or meaningless, although dealing with perfectly simple matters. The chief object of the book seems to be to show that *Number* consists of a *continuous* series of magnitudes, which can be subjected to three direct and four inverse operations. Starting with the primary idea of numbers as positive integers, we have first the operation of addition, and its inverse, subtraction, which suggests negative numbers; next multiplication, and its inverse, division, which suggests fractional numbers; and finally involution, and its two inverses, evolution and finding the logarithm, which suggest complex numbers. No other operation leads to any further kind of number, and the conclusion is made that there is not and cannot be any other kind. We thus arrive at what the author calls the "Principle of Continuity":—"The combination of two numbers in any defined operation is always possible, the result real, and a *number;* and the precise efficacy in any operation of a number thus revealed is determined by, and may be discovered from, the formula and laws of definition of the operation in question." This looks rather stiff reading as an introduction to algebra; but if expressed more simply it would prove instructive to students, and would be admitted by all mathematicians. We give one other quotation (page 82) which appears to us to be interesting:—"It is an established principle that when the inverse (*i.e.*, converse) of any proposition is not true, it is because the subject of the direct statement has been more closely limited than truth required." Is this an established principle of logic or of mathematics? The author does not say. It looks very like a truism; but we should have been glad of a reference or further exposition.

(3) This book includes only "those portions of Statics which are contained in the syllabus of the Science and Art Second Stage Examination in Theoretical Mechanics." The authors make no attempt to conceal, but rather emphasize, the fact that their aim has been to produce a cram-book. For educational purposes it cannot be regarded as having much value. On the first page the magnitude of a force is defined, correctly enough, to vary as the velocity it would impart to a particle of given mass in a given time; but this is immediately followed by the statement that the force also varies as the actual distance traversed by the particle if starting from rest; and the reason for this comparatively advanced theorem is relegated to a line in a footnote. On this the proof of the Parallelogram of Forces is made to turn. The authors think their proof to be "more instructive than most dynamical proofs"; but to an unprejudiced mind it might appear to be impossible to invent a less instructive proof. On page 41 we are told to imagine that one of the forces acting on a particle in equilibrium pushes it with uniform velocity; and on page 217, in applying the principle of virtual work to a particle on an inclined plane, we are told that the particle could not actually be displaced horizontally without breaking the plane or leaving it; but we are not told the essential thing, to imagine the plane removed and a force applied equal to that exerted by it. We have not picked out the worst features of this book; in particular, the chapter on Moments is full of absurdities. Notwithstanding its numerous faults, some parts are written with commendable clearness; and there is a very large stock of examples for the reader to choose from.

(4) Mr. Stevens's primer is taken for the most part from the *First Course* of the author's *Elementary Mensuration*; written, however, with greater simplicity and detail, and bringing the work within the reach of pupils having no previous knowledge of geometry. The book gives also the rudiments of geometrical drawing, and is divided into three stages, the first on triangles and quadrilaterals, the second on the circle and regular and irregular polygons, and the third on solid figures, including the sphere. Thus a considerable amount of ground is covered, and the whole is written with rare judgment and clearness. We should judge that it would be practically impossible to produce a book better adapted to its purpose.

(5) We are told in the Preface that this book contains the substance of lectures delivered to a village audience in 1893, under the auspices of the East Suffolk County Council. It attempts to explain in a simple and suggestive way the first principles of Euclid and algebra; and we can heartily recommend it to those who regard mathematics as a mystery. The book is full of common sense, as may be exemplified by the way in which the notion of a straight line is first introduced:—"A straight line is one of those notions in our head that we cannot make plainer, if we were to talk our tongues out. One important thing may be said about a straight line: it is the shortest distance between its ends."

REPRINTS.

(1) *Herodotus.* The Text of Canon Rawlinson's Translation, with the Notes abridged. By A. J. Grant, M.A. 2 vols. (Murray.) (2) *Early Essays by John Stuart Mill.* Selected from the Original Sources by J. W. M. Gibbs. (Bell & Sons.) (3) Washington Irving's *Tales of a Traveller.* Introduction by Prof. Brander Matthews. Edited by P. A. Barnett, M.A. (Longmans.)

(1) It is very useful for classical and historical students, for Extension and "Home-Reading" classes, and for the serious "general reader," to have Rawlinson's *Herodotus* in a cheaper and more accessible form. The text is here produced practically as it appeared in the original four volumes; but in the notes, which were very compendious, Mr. Grant has omitted everything in the nature of an *excursus* on the Greek text, without sacrificing elucidations or illustrations of the actual history. New maps have been introduced to explain the battles of Marathon, Thermopylæ, Platæa, and Salamis. Altogether, this is a very serviceable edition of a valuable work, and affords one more proof of the existence of a genuinely healthy demand for reprints of sober literature.

(2) The essays of the younger Mill must appeal in these days to a rather limited public, but they will be welcome in this convenient form to students of economic problems. The acuteness and clearness of the author's mind will give him for a long time to come a prominent place amongst our economic and political philosophers.

(3) The *Tales of a Traveller* are welcome in any form, and as one of "Longmans' English Classics" they will serve a good purpose, not merely as a text for reading, but as a sample of English literature as produced in America before our cousins over the water grew ashamed of the language of their ancestors, and took to amending its spelling and diction. The few footnotes are all but worthless, and had better have been omitted. What is the use of printing "Irish" as an explanatory footnote to "Milesian"? "Your real Milesian families," in the mouth of an Irishman, is quite misrepresented by such a note.

TEXTS WITH NOTES.

(1–8) Milton's *L'Allegro* and *Il Penseroso.* Milton's *Lycidas.* Moore's *Paradise and the Peri.* Goldsmith's *Deserted Village.* Byron's *Prisoner of Chillon.* Gray's *Elegy, The Bard,* and *Ode on Eton College.* All in paper covers, 4d. each. *A Selection from Bacon's Essays.* Stiff covers, 1s. Pope's *Essay on Criticism.* Edited by Rev. H. Evans, D.D. (Blackie & Son.) (9) "Dinglewood Shakespeare Manuals."—*Hamlet.* By Stanley Wood, M.A. (John Heywood.) (10–13) "The Warwick Shakespeare."—*Richard III.* Edited by George Macdonald, M.A. *A Midsummer Night's Dream.* Edited by E. K. Chambers. *Cymbeline.* Edited by A. J. Wyatt, M.A. *The Tempest.* Edited by F. S. Boas, M.A. (Blackie & Son.) (14) Macaulay's *Essay on Milton.* Edited by G. R. Carpenter, A.B., with a Preface by P. A. Barnett, M.A. (Longmans.) (15) Spenser's *Fairie Queene.* Book I. By Kate M. Warren. (Archibald Constable & Co.)

(1–8) The series which begins our list is entitled "English Classics for Intermediate Schools and Colleges." The work of the editor is well proportioned and well arranged. The text is not obscured by irrelevant dissertations. Such biographical and critical notices as are given are brief, and very much to the point. The exegetical notes are well selected and clearly expressed. Dr. Evans has succeeded in placing himself in the position of the young reader, and gives him not only the customary explanation of classical names and allusions, but also the suggestive paraphrase or brief explanation of passages that only an experienced teacher would know is likely to be helpful. One example must suffice. We remember a case in which a boy, after elaborate instruction in Milton's *L'Allegro*, paraphrased the line: "To the tanned haycock in the mead," as "they eat a roast fowl." The student of this edition would not make the mistake of supposing that a "tanned haycock" is a roast fowl. He is told that it is "a pile of dried grass browned by the sun." There is an intelligible chapter on metre running through several of the volumes.

(9) Mr. Wood's "Hamlet" is another of the useful little volumes of questions and notes on separate plays (without the text) which we have noticed and praised on several occasions. Many of the questions are answered in full; hints are given for others; and there is a supplement of twenty-five general questions, with explicit answers. Considering that the Dinglewood Manuals are small and unpretentious, we know few more serviceable books on the separate plays of Shakespeare.

(10-13) "The Warwick Shakespeare" adds one more to the many annotated school editions of the dramatist, but in its struggle for existence it will be found, we think, to have many points in its favour. These volumes have been carefully prepared by competent scholars on what seems to be a right method, that of subordinating the historical, critical, and philological information given to the direct object of interpretation. Nor have they shrunk from giving what has been called "sign-post" directions. We are not likely all to agree with the "appreciations" of any editor, but there can be little doubt that children do require to be told what to look for and even what to admire. Importance has been rightly attached in this series to subjects of *metre*. Each volume has an independent essay on blank verse and Shakespeare's metrical variations that will prove useful to elder students and to teachers.

(14) The notes to this edition are poor, and are printed at the bottom of the page. But there is an interesting introduction to the Essay, and a little chapter of "Suggestions for Teachers" which is distinctly valuable, especially on the difficult problem how to direct, how to control, and how to render profitable the study of literature in schools.

(15) This volume is the first of six. It is beautifully printed, well-bound, and of a convenient pocket size. There is an excellent glossary, tersely expressed, which not only gives the meaning of difficult words, but explains the classical and other references generally treated in elaborate notes. It is not etymological. A few brief additional notes explain the points that could not easily be referred to a glossary, and also give some of the main differences of the texts on which this edition is founded. We commend the work.

FRENCH.

(1) *Les Trappeurs de l'Arkansas.* Par Gustave Aymard. Edited by Marguerite Ninet. (Blackie.) (2) *The Beginner's French Grammar and Exercises.* By H. R. Harper, M.A. (Rivington, Percival, & Co.) (3) *A Higher French Reader.* By Ernest Weekley, M.A. (Clive.) (4) *Le Roi des Montagnes.* By Edmond About. Edited by Arthur R. Ropes, M.A. (Cambridge University Press.) (5) *L'Avare.* Par Molière. Edited by E. G. W. Braunholtz, M.A. (Cambridge University Press.)

(1) There is little doubt that a text fitted to arrest a young scholar's attention, and to retain his interest to the end—though it be perhaps of but little literary merit—is well suited to the purpose of a French Reader. The pupil has to acquire a copious and varied vocabulary, and the interest felt in the story will greatly help him towards that end. *Les Trappeurs de l'Arkansas* breaks, indeed, new ground, and the book is well chosen for the purpose in view. The young reader, carried away by the intense interest of a wild narrative, may possibly read superficially in order to speedily reach the end of the tale and set his curiosity at rest; but the point is that he will read, and by so doing will gather unconsciously, as he courses along, a knowledge of words and phrases that may stand him in good stead on future occasions. The story under notice is abridged, but the chapters are well linked together, and the interest never flags. The relish with which Fenimore Cooper, Mayne Reid, and *tutti quanti*, have been and will be read by generations of schoolboys ought to insure for the *Trappeurs de l'Arkansas* a welcome in the French classes of schools. Mdlle. Ninet has done her work carefully and helpfully. The general preface, the biographical and historical introductions, are useful and interesting. The notes supply all that is necessary for the idiomatic elucidation of the text, and are not laden with syntactical explanations or philological definitions. The book is clearly and carefully printed, three small errors only having come under our notice. On page 106, "one good turn deserves another" hardly renders the brutal laconism of "*donnant, donnant.*"

(2) *The Beginner's French Grammar*, of H. R. Harper, although it does not break new ground, is not unsatisfactory, and can compare favourably with the majority of similar works. The acoidence is clear and concise, and illustrated by copious exercises which run from the simplest sentence to extended narratives, and easy composition based upon the same. No doubt the book fulfils its purpose by supplying easy steps for young beginners. It is printed in clear large type, and contains two vocabularies. A boy who has gone carefully through the course will be fairly well equipped for the greater difficulties of an ordinary junior course.

(3) We must somewhat demur to Mr. Weekley's assertion that examiners are compelled, when they set their French papers, to select passages which make great demands on the candidate's vocabulary, if the test is to be at all severe. A passage that seems easy in vocabulary and style may yet require all the candidate's knowledge and thoughtful ingenuity in order to render the ideas therein expressed in lucid Queen's English, and our experience tells us that such passages are not the least dreaded. The *Higher French Reader* contains a diversity of literary pieces of various length, both in prose and verse, such as will exact not only a wide and familiar knowledge of words, but also the power of understanding and transferring into idiomatic English the thoughts and ideas which they express. It is a very interesting compilation, far superior, we think, for higher-class work and educative purposes—owing to its intrinsic and varied interest—to such Readers as present but one connected story, one style, and recurring words and turns of expression. It is eminently adapted for supplying senior students preparing for higher examinations with a large field of judiciously chosen excerpts from numberless writers, representative of all kinds of styles—comic, graphic, philosophic. The book is got up with the neatness and care which characterize the University Correspondence College Press. We have detected only two printer's errors. We have no hesitation in recommending this Reader to students, and to their teachers likewise.

(4) *Le Roi des Montagnes* is the text-book set this year for the Cambridge Local Examination in December next. This is sufficient to insure for it a wide, if enforced, popularity. The notes are fair, but contain nothing of a nature to lift them out of the common.

(5) *L'Avare* is also the text-book set for the Cambridge Local; but this edition might challenge criticism as a University Press edition. *Noblesse oblige*, and Pitt Press editors should not rest content to annotate a book for the use of the class-room only; there are, besides the school boy and "Local" candidates, the intelligent general reader who searches for wider information, and the scholar, to whom such information is, above all, a necessity. But in the present edition the notes are above the head, entirely beyond the scope, of the young candidate. This is nothing if not a scholarly production. The outlines of Molière's life; the introduction to the play, reciting its vicissitudes, its ultimate success, its sources; the lucid analysis of the characters, the interesting parallel passages to be found in other authors, the criticisms it elicited at home and abroad, its imitators; the full appendix, detailing the passages of various authors whom Molière has laid under contribution; the notes, in which no pains have been spared, leaving no word, no idiom, no obsolete *tournure de phrase* or syntactical peculiarity unexplained—all tend to make this a noteworthy edition of *L'Avare*, after which, we believe, *il n'y a plus qu'à tirer l'échelle.* To lovers of Molière we can heartily recommend the book.

MISCELLANEOUS.

The Study of Yorkshire. (Edwin Arnold.)

Of all the English counties, Yorkshire, in the diversity and charm of its scenery, the variety and importance of its manufactures, and its history, especially military and ecclesiastical, is perhaps the most interesting. In this volume many of these points of interest are described in a series of reading lessons. The first half of the book is mainly historical and seems fairly well done, though we have noted one or two inaccuracies. The young Earl of Rutland (page 115) murdered after the battle of Wakefield was a good deal more than eleven years of age. There is a portrait of the Earl of Warwick, the Kingmaker, though we believe no authentic portrait of him exists. The author has happily introduced several poems dealing with Yorkshire, such as Scott's "Brignall Banks," Wordsworth's "The Force of Prayer," and extracts from "Hartleap Well" and "The Shepherd Lord." The latter part deals with important towns and manufactures, with a useful chapter on the historic significance of place-names. Lastly, there are some short biographies of Yorkshire celebrities, as Captain Cook, Smeaton, Charlotte Brontë, and Flaxman. From these we note that Wilberforce is excluded, probably through want of space. On the whole, the author has treated his large subject in a fairly representative manner, and has produced an interesting and meritorious book, which will be useful not only to Yorkshire school-children, but also to Yorkshire visitors in their summer holidays. With the exception of some of the portraits, the illustrations are good.

Kindergarten Guide. By Loïs Bates. (Longmans.)

In the rapidly increasing library of kindergarten literature, this brightly written and beautiful book should obtain a place on an easily accessible shelf. Starting with a short exposition of Froebel's principles, and a description of a kindergarten, the author passes to an account of "gifts and occupations," with model lessons on each, and finally discusses at length the ordinary school subjects, including singing, marching, and drill. The work is well written throughout, and crammed with knowledge of what has been done, and suggestions of what may be done. Of the many diagrams and coloured plates it is impossible to speak too highly. They are works of art, both in design and execution.

The Problem of Elementary Composition. By Elizabeth H. Spalding. (Isbister.)

"These chapters were written for delivery before the Brooklyn Teachers' Association." They are a series of little "talks" of a most original and stimulating character, by one who is evidently "a born teacher," on the question how children can be interested in composition and taught how to set about it. In the limits at our disposal we cannot give any idea how the author at once raises enthusiasm and suggests method. We can only say that there are few teachers who would not find some of her ingenious devices useful.

The Fitzroy Pictures for Schools, Mission-Rooms, and Hospitals. By Heywood Sumner, Selwyn Image, and others. (Bell & Sons.)

This is an excellent series of large decorative prints, hand-coloured or chromo-lithographed, all thoroughly simple in subject, whether Biblical or drawn from familiar scenes of the day. They are primarily intended for the schoolroom wall or screen, for which they are eminently fitted, being clearly outlined, bold in form, expression, and colour, and in the best sense artistic. "The Nativity," by Mr. Sumner, is in three panels of stout paper, the centre panel being nearly five feet high by one and a half broad, whilst the side panels are six inches shorter. We strongly recommend these pictures, both for decoration and for subject-illustration.

Side-Lights on Shakspere. By L. Rossi and E. M. Corbould. (Swan Sonnenschein.)

It is to be feared that this little book will suffer by the attempt of its authors to cater for two sets of readers. They aim at supplying "the information required by students preparing for examination," and at the same time at making it attractive to the general reader. In order to effect the first of these objects, they incorporate in the text "the details usually relegated to notes and appendices," and the result is a decidedly disjointed text. If the information were more correct and serviceable than it is, this drawback would be of less consequence. But what is one to make of a comment like the following ?—"'Or in the beached margent of the sea,' would now be written, 'or on'; Elizabethan authors had a way of using one part of speech for another."

Nonconformity in Worcester. By the Rev. William Urwick, M.A., F.R.H.S. (Simpkin, Marshall, & Co.)

As a worker in the by-paths of English religious history during the past two centuries or so, Mr. Urwick has made more than one useful contribution to a permanent account of the early Nonconformists. What he has already done for Hertfordshire, he repeats in this volume for Worcestershire, printing extracts from the non-parochial registers, with lists of the original seceders from the Church in the later Stuart period, and tracing the Puritan succession from "the martyr bishops" and the "Puritan lecturers," through Baxter and his associates, down to the Congregationalists of yesterday and to-day. Though the interest of this book is in some respects trivial and local, it has undoubtedly a certain amount of historical value.

A Plea for the Unborn. By Henry Smith. (Watts & Co.)

Mr. Smith argues that children could, and therefore should, be born with a sound mind in a sound body, and that man may become perfect by means of selection and stirpiculture. The subject is more important than easy to handle; here we must be content *guardare e passare.* And, meanwhile, we must be practical, and look after the unsound minds and the unsound bodies.

A Book of Scottish Poetry. Selected and Arranged by M. B. Synge. (Arnold.)

Here we have eighty-one poems, mostly Scottish, but a few by English writers on Scottish subjects, progressively arranged, passing from nursery songs to battle-pieces and legends, and from the English tongue to the outer Scotch. It is a right good collection.

We have received the following publications:—

Calendar, History, and General Summary of Regulations of the Department of Science and Art, 1897.

Greenwood's Library Year Book, 1897 (Cassell & Co.)—a serviceable handbook, though sometimes a little combative in personal matters.

Matriculation Directory, January, 1897 (University Correspondence College).

English Spelling Book for Indian Schools, by Dinanath Sen (Sen: Dacca). *The Interesting Word Builder and Spelling Book* (Jarrold & Son)—useful in method and arrangement, for such as dare not trust the eye alone to teach spelling.

Wee Dorothy's True Valentine, by Laura Updegraff (Jarrold & Sons)—a simple story for little children.

First Italian Readings, by B. L. Bowen, Ph.D. (Isbister)—a good collection of simple passages, with notes and a vocabulary, on the principle that "the best method of learning to read is to read."

Elementary Spanish Grammar, with Exercises and Vocabulary, by Luigi Pavia (D. Nutt—"Method Gaspey-Otto-Sauer")—a clear, convenient, and sensible introduction to Spanish accidence.

Spanish Self-Taught, by C. A. Thymm (Marlborough)—described as "an original system arranged on the simplest principles for universal self-tuition"; to which description, with due reservation in regard to the emphatic adjectives, we do not demur.

Brush Work for Kindergarten and Primary Schools, by Ella Goodwin Lunt (Isbister)—a packet of elementary card-copies.

Cannon's Kartenspiel: a new Method for facilitating the Study of Languages (from the Author)—a box of small cards of three colours, to represent the three genders, each card having a German word on its coloured side, with the English on the white side. The object is to provide a simple test for the memory; and there is certainly something to be said for this novel plan.

How to Write; a Series of Graduated Exercises in Composition, in eight parts (Jarrold & Sons)—writing books, with space provided for answering the printed questions.

LITERARY GOSSIP.

The first volume of Mr. Gosse's series of "Literatures of the World," published by Mr. Heinemann, will appear on March 2. It will be an account of classical Greek literature, by Professor Murray, of Glasgow.

Dr. Merz has been reading to the Durham Philosophical Society a paper on "Education and Instruction at Home and Abroad," in which he maintained that France has elaborated instruction to the extinction of education, and that Germany is in danger of doing the same, while the English, although in many respects inadequately instructed, are the best educated nation in the world. This testimony from a German who has lived many years in England was all the more weighty (the *Guardian* says) in consequence of that fact, and Dr. Merz has proved by his writings that he is a competent judge of such subjects. The first volume of his "History of Thought in the Present Century" was published towards the end of last year, and has been very favourably noticed.

The Rev. D. S. Evans, rector of Llanwrin and Chancellor of Bangor Cathedral, has been elected to a supernumerary Fellowship at Jesus in consideration of the work on Welsh lexicography on which he is engaged.

A circular has been addressed to about a score of leading newspapers in America, Canada, and Australia, appealing to the Irish race to support the forthcoming "Oircachtas," and pointing out that, if the necessary funds are subscribed, it would be possible to offer substantial prizes for original essays, poems, and songs in the Irish language.

The names of five young Oxford men who are about to publish a book of political essays are, for one reason or another, says the *Westminster Gazette,* familiar outside the University. H. Belloc, of Balliol, is a successful journalist; Macdonell, of Brasenose, the best History First of his year, is the son of the late James Macdonell, who was one of the most distinguished newspaper men of the time; while Messrs. Simon and Hirst, of Wadham, both Firsts, are promising young politicians, and, like the other two, ex-presidents of the Union. J. L. Hammond, of St. John's, is now secretary to Sir John Brunner, and has had a hand in an important little work on education.

The life of the late Laureate, upon which his son, the present Lord Tennyson, has been engaged since soon after his father's death, has at last been completed, and has gone to the press. It will not, however, be published before the beginning of October—the *Athenæum* says the 6th of that month. The work, towards the preparation of which many prominent men have contributed material, will be in two volumes, and will certainly be one of the most interesting and important books of the year.

CORRESPONDENCE.

THE LATE MR. BEUZEMAKER.

To the Editor of the Educational Times.

DEAR SIR,—Many friends of the late Mr. J. J. Beuzemaker, B.A., B.Mus., have expressed a wish to establish some permanent record to his memory, and it is thought that an appropriate tribute—and one that would have been gratifying to himself had he been alive—would be to raise a sum of money to further the objects of the Modern Language Association, of which Mr. Beuzemaker was, as you know, the founder, and Chairman up to the time of his death. Whatever amount is raised will be handed over to the Treasurer of the Association, after making a small deduction for the erection of a simple monument to mark the spot where Mr. Beuzemaker's remains lie. Cheques and postal orders may be made payable either to Mr. Richard Kershaw, 45 Devonshire Street, Portland Place, W. (executor), or to myself.
—Yours faithfully, B. PROPER.

Caroline Villa, Victoria Road, New Barnet, Herts.
February 17, 1897.

THE PRIVATE SCHOOLS' ASSOCIATION.

To the Editor of the Educational Times.

SIR,—As a certain amount of correspondence relating to the Private Schools' Association is still addressed to me, will you allow me to announce, through the medium of your columns, that, on account of personal, as well as of general, reasons, I

felt bound to quit that Association some weeks ago, and to throw up the editorship of its Magazine?—I am, Sir, faithfully yours,

55, Gunterstone Road, W. J. O. BEVAN.

February 19, 1897.

SECONDARY TRAINING.

To the Editor of the Educational Times.

SIR,—In your February issue, in connexion with some references made to the Report of the Royal Commission on Secondary Education and some quotations from that Report, mention is made of the Datchelor Training College in terms which are likely to mislead as to the character of the College and the nature of its work.

This is a Training College for Teachers in Secondary Schools, which is itself connected with a large secondary school of 400 pupils. But it is not a mere training department in which student-teachers, when they have finished their general education, work as probationers under supervision. It is a fully organized and constituted Training College, just as surely as the Maria Grey and the Cambridge training colleges. It has its own staff—its own mistress of method, its regular and occasional lecturers, its criticism and model lessons conducted by the Principal and the mistress of method—and so on. Our students are not our own "student-teachers," for we have none such; some of them have passed through our own school before entering our training college, but the large majority come to us from outside, from schools of the Girls' Public Day School Company and other secondary schools, and from private schools. They come to us at all ages, and in some cases after years of experience in teaching. The scheme under which our school works limits the number of our students to twenty-six, but the comparative smallness of our numbers renders it more possible to give our students a really practical training. The students practise in our own school, and hear the best teachers in our school almost daily; they also practise in four other schools near us. Our mistress of method was trained at the Maria Grey, under Miss Ward, in the days when Miss Ward's college was the *one* college in England for the training of teachers in secondary schools. Miss Ward herself is now one of the most highly valued of our visiting lecturers.

You were good enough once before to allow me to say a word in remonstrance against the incorrect mode of describing this College, which has arisen one hardly knows how, and I am much indebted to you for allowing me space once again.—I am, Sir, yours faithfully,

C. E. RIGG (Principal).

Datchelor Training College, The Grove, Camberwell.

February 22, 1897.

LARMOYER'S "COLLECTION OF FRENCH HOMONYMS, &c."

To the Editor of the Educational Times.

SIR,—I quite understand that it is your right to criticise the works that are sent to you for review; but you will doubtless admit that it is equally the right of authors to reply to unfair criticism. This should especially be the case when your reviewer—who is certainly not a Frenchman, and evidently has but a faint knowledge of the language—shows such complete ignorance as he does in his article on my "Collection of the French Homonyms, Synonyms, Paronyms, and 'Multisenses.'"

In his critique, after acknowledging that he does not know what *Il use des lunettes* means—which, by the way, is a very common expression amongst us Frenchmen—he says he did not know that *profondeur* ever meant *cupidité*, nor *incroyable incompréhensible*. Further, he says a "Gladstone bag" is not a *nécessaire de voyage*, neither does *il raffine sur la langue* mean "he improves the language." As a Frenchman who knows English well, I beg, with all due respect, to tell him that in this he has made a very free use of "multinonsenses" (this is his own word), and should be glad to hear how he justifies his criticisms.

He also says that *faire tourner la tête à quelqu'un* does not mean "to make one fall in love with." Let him show the context to any Frenchman, and ask him what it means *in that passage*—the latter's answer would be equivalent to a free French lesson to him.

"The homonyms," he says, "could be enlarged." Could he give me the name of a book (except my own "Practical French Grammar") where half so good a list is given? I have, in the collection under review, three hundred and sixty different sets of homonyms, and it is my boast that I have brought together by far the largest number that has yet appeared, not only in this country, but also in France.

I suppose, like the owls, in one of Miss Mary Corelli's books, he looks very wise; but, as a French writer, I humbly suggest a little study of the language before he criticises another French book. I regret his inability to grasp the idea of the "multisenses."

I rely upon your courtesy and love of fair play to insert this in your next issue. Were the article intended for French people, I should not have taken the trouble to write this letter; but being, as it is, intended for English readers, who might be guided by the opinion contained in it, I could not allow it to pass by in silence.—Yours faithfully,

42 Leigham Vale, Streatham, S.W. M. H. LARMOYER.

[M. Larmoyer is mistaken. Our reviewer is of the same nationality as himself. *Non nostrum componere lites;* we must be content to print this letter as it reaches us.—EDITOR.]

MATHEMATICS.

13375. (Professor SYLVESTER, Athenæum Club, 18*th Dec.*, 1896.)—

If $$\frac{Fx}{(1-x)^n} = 1 + 2^{n-1}x + 3^{n-1}x^2 + \&c.,$$

prove that Fx is a symmetrical function of the degree $(n-2)$ in x, the sum of whose coefficients is the factorial of $(n-1)$.

Ex.—Let $n = 5$. Call $Fx = 1 + Bx + Cx^2 + Dx^3$; by the rule given above, $D = 1$, $C = B$, and $1 + B = 12$, so that $B = 11$, $C = 11$, $D = 1$, and accordingly

$$\frac{1 + 11x + 11x^2 + x^3}{(1-x)^5} = 1 + 16x + 81x^2 + 256x^3 + \dots .$$

Let $n = 6$. Call $Fx = 1 + Bx + Cx^2 + Dx^3 + Ex^4$. Then obviously $B = 32 - 6 = 26$, and, by our rule, $D = 26$, $E = 1$, and $C = 120 - 54 = 66$. So, if $n = 7$, if $Fx = 1 + Bx + Cx^2 + Cx^3 + Bx^3 + x^5$, we have $B = 64 - 7 = 57$, $C = \frac{726}{2} - 58 = 302$, and it will be found that

$$\frac{1 + 57x + 302x^2 + 302x^3 + 57x^4 + x^5}{(1-x)^7} = 1 + 64x^2 + 729x^3 + 4096x^4 + \dots .$$

Thus, with scarcely any work of computation, we may find the following table of coefficients in Fx corresponding to all values of n from 1 to 9 inclusive, viz.: 1; 1; 1, 1; 1, 4, 1; 1, 11, 11, 1; 1, 26, 66, 26, 1; 1, 57, 302, 302, 57, 1; 1, 120, 1312, 2416, 1312, 120, 1; 1, 247, 3693, 16219, 16219, 3693, 247, 1.

Solution by R. KNOWLES, B.A.; Professor STEGGALL; *and others.*

Let $S = 1 + 2^n x + 3^n x^2 + \dots$; then, using the symbolical method,

$$S = (D+1)^n u, \quad \text{if} \quad u = \frac{1}{1-x}.$$

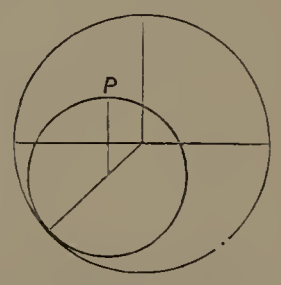
If $$n = 1, \quad S = \left(x\frac{d}{dx} + 1\right)u = \frac{1}{(1-x)^2} \quad \dots\dots\dots\dots\dots(1).$$

[The rest in Volume.]

4864. (Professor CAVALLIN.)—Two points P and Q are taken at random on the area of a vertical circle; find the probability that the time of descent for a particle down the straight line PQ, from P to Q, may be less than that from P down the straight line of quickest descent to the circle.

Solution by H. W. CURJEL, M.A.

Take the equation to the circle $x^2 + y^2 = a^2$, the axis of x being drawn vertically upwards. Radius of circle, touching the given circle, of which P (x, y) is the highest point, is



$$\frac{a^2 - x^2 - y^2}{2(a-x)},$$

and if condition is satisfied Q must be in this circle; therefore chance required

$$= \frac{1}{\pi a^2}\int_{-a}^{a}\int_{-\sqrt{(a^2-x^2)}}^{\sqrt{(a^2-x^2)}} \frac{1}{a^2}\left\{\frac{a^2-x^2-y^2}{2(a-x)}\right\}^2 dx\,dy$$

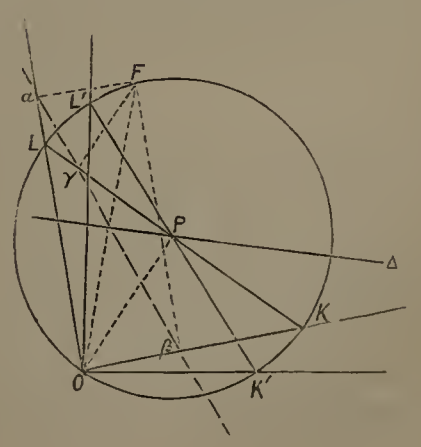
$$= \frac{4}{15\pi a^4}\int_{-a}^{a}(a+x)^2\sqrt{(a^2-x^2)}\,dx = \frac{4}{15\pi}\int_{-\frac{1}{2}\pi}^{\frac{1}{2}\pi}(1+\sin\theta)^2\cos^2\theta\,d\theta$$

$$= \frac{4}{15\pi}\times\frac{5\pi}{8} = \tfrac{1}{6}, \quad \text{where } x = a\sin\theta.$$

13340. (C. E. HILLYER.)—O is a fixed point, P any point in a given straight line, and PK is drawn equally inclined with PO to a fixed straight line through O. Prove that PK always touches a fixed parabola; and, further, that if PK′ be drawn equally inclined with PO to a second fixed straight line through O, then each side of the triangle PKK′ touches one of three fixed confocal parabolas.

Solution by Professor A. DROZ-FARNY; H. W. CURJEL, M.A.; *and others.*

Soit Δ la droite donnée; élevons en O la perpendiculaire OL sur OK. La circonférence décrite de P comme centre avec PO comme rayon coupe les droites OK et OL respectivement en K et L et KL sera la tangente cherchée.



Soit F le point symétrique de O par rapport à Δ; le triangle LOK étant inscrit dans la circonférence, les pieds α, β, γ des perpendiculaires abaissées de F sur OL, OK, KL sont en ligne droite, la droite de SIMSON de F. α et β étant deux points fixes, il en résulte que PK enveloppe une parabole ayant F comme foyer et $\alpha\beta$ comme tangente au sommet.

De la même manière PK′ enveloppera une parabole ayant F comme foyer et sa droite de SIMSON par rapport au triangle L′OK′ comme tangente au sommet. Enfin angle KFK′ = KOK′ = constant; donc KK′ enveloppe aussi une parabole de foyer F.

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615. (W. PRIESTLEY.)—Suppose a person standing in a railway carriage, which moves uniformly at the rate of 25 miles per hour, were to drop a ball to the bottom of the carriage, a height of 5 feet. Find the length of the track described by the ball in its descent.

Solution by Professor ZERR, M.A.

The equation to the curve described by the ball is, since the angle of projection is zero $\qquad y = -\dfrac{gx^2}{2v^2}$,

$v = 25$ miles per hour $= 36\frac{2}{3}$ feet per second, $\quad g = 32\frac{1}{6}$ feet per second;

$$\therefore \quad 579x^2 = -48400y, \quad \text{or} \quad x^2 = -2ay, \text{ suppose};$$

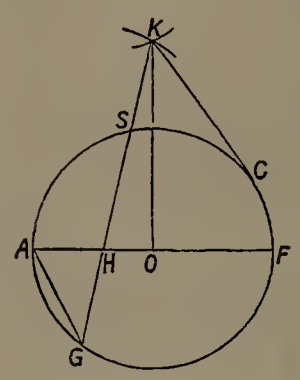
when $\qquad y = -5, \quad x^2 = 10a, \quad$ or $\quad x = (10a)^{\frac{1}{2}}$,

$$S = \frac{1}{a}\int_0^{(10a)^{\frac{1}{2}}} (a^2+x^2)^{\frac{1}{2}}\,dx = \tfrac{1}{2}\left\{\sqrt{[10\,(a+10)]} + a\log_e \frac{\sqrt{(10)}+\sqrt{(a+10)}}{\sqrt{a}}\right\},$$

$S = 21{\cdot}233$ feet.

13332. (G. N. BATES, B.A.)—Prove the following method for inscribing a pentagon in a circle:—Let AFC be a circle, AF a diameter. Divide AF into five equal parts; with A and F as centres and radius AF, describe arcs of circles cutting in K. Join K with H, the second point of division; produce KH to cut circle in G. AG is the side of the pentagon.—Show that, in a circle of radius 1″, the side first obtained is of length 1·174...″. (True length should be 1·1755...″.)

Solution by the PROPOSER.



Let R be radius of circle. Then

$$AH = \tfrac{4}{5}R, \quad KO = \sqrt{3}\,R,$$

$$KH = \frac{2\sqrt{(19)}}{5}R, \quad \cos KHO = \frac{\sqrt{(19)}}{38},$$

Now $\qquad KS\,.\,KG = KC^2 = 2R^2,$

$$SH\,.\,HG = (24R^2)/25,$$

and $\quad KS\,.\,KG = (KH-SH)(KH+HG) = 2R^2;$

$$\therefore \quad SH-HG = -(2R^2-\tfrac{76}{25}R^2+\tfrac{24}{25}R^2)/HK$$

$$= \frac{R}{5\sqrt{(19)}},$$

and $\qquad SH\,.\,HG = \tfrac{24}{25}R^2;$

therefore $\qquad HG = \dfrac{1}{10\sqrt{(19)}}\left\{5\sqrt{(73)}-1\right\}R.$

[The rest in Volume.]

3854. (Professor Sir R. S. BALL, F.R.S.)—From any point perpendiculars are drawn to the generators of the surface $z(x^2+y^2)-2mxy = 0$. Show that the feet of the perpendiculars lie on a plane ellipse.

Solution by Professor CLAYTON, M.A.

Any generator is of form $x/\cos\theta = y/\sin\theta$, $z = m\sin 2\theta$.

Now, since locus point must satisfy the equations of a perpendicular or generator, we have these equations:

$$(x-x')\cos\theta + (y-y')\sin\theta = 0 \;\ldots\ldots\ldots\ldots\; (1),$$

$$x\sin\theta - y\cos\theta = 0 \;\ldots\ldots\ldots\ldots\; (2),$$

$$z - m\sin 2\theta = 0 \;\ldots\ldots\ldots\ldots\; (3).$$

From (1), (2), $\qquad x^2+y^2-xx'-yy' = 0;$

therefore one locus of point in question is this right circular cylinder.

[The rest in Volume.]

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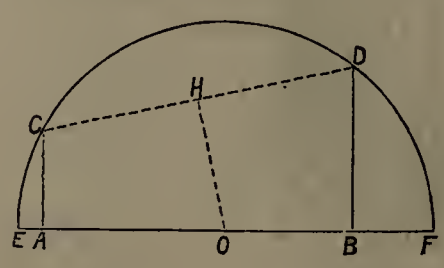
635. (Rev. T. GASKIN.)—(1) In the line AB to find two points E, F, such that $EA \times AF = AC^2$ and $BE \times BF = BD^2$, when AC and BD are given; E and F being also on different sides of A and B respectively. (2) To find E, F when E and F are on the same side of A, but on different sides of B. (3) To find E and F when they lie wholly between A and B.

Solution by K. S. PUTNAM.



(1) At A and B erect the perpendiculars AC and BD. From H, the centre of CD, erect a perpendicular intersecting AB. With O, the point of intersection, as a centre, describe the circle passing through C and D. Then E and F, the points of intersection with AB produced, will be the points required, for $AC^2 = AE\,.\,AF$ and $BD^2 = BE\,.\,BF$.

[The rest in Volume.]

5447. (Rev. W. ROBERTS, M.A.)—The cone $x^2\cot^2\alpha + y^2\cot^2\beta - z^2 = 0$ intersects the sphere $x^2+y^2+z^2-a^2 = 0$ in a sphero-conic. Show that the equation of the tubular surface, which is the envelope of a sphere of constant radius k, whose centre moves along this sphero-conic, is had by equating to zero the discriminant of the following cubic in λ,

$$4a^2\sin^2\alpha x^2/(P^2+4\lambda a^2\cos^2\alpha) + 4a^2\sin^2\beta y^2/(P^2+4\lambda a^2\cos^2\beta) - z^2/\lambda = 1,$$

where $\qquad P = x^2+y^2+z^2+a^2-k^2.$

Solution by Professor W. BOOTH.

Let $x'y'z'$ be the variable centre of the sphere; then

$$(x-x')^2+(y-y')^2+(z-z')^2 = k^2 \ldots\ldots\ldots\ldots (1),$$

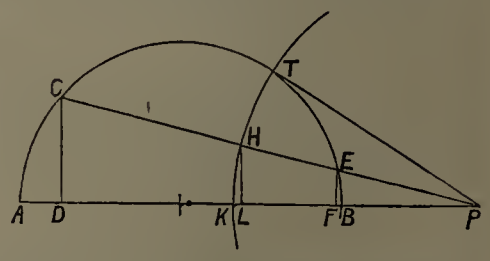
and $\qquad x'^2+y'^2+z'^2 = a^2,$

also $\qquad z'^2 = x'^2\cot^2\alpha + y'^2\cot^2\beta.$

[The rest in Volume.]

13392. (P. W. FLOOD.)—From a given point in the diameter produced of a given semicircle, draw a line cutting the circumference in two points such that, if perpendiculars be drawn from them on the diameter, their rectangle will be given.

Solution by MORGAN BRIERLEY; W. E. JEFFARES, B.A.; *and others.*



Let ATB be the given semicircle, and P the given point in AB produced; from P draw the tangent PT, and, with PT as radius, describe the arc TK, cutting the diameter in K. On the diameter erect the perpendicular IH whose square equals the given rectangle, meeting this arc in H, through which draw PEHC, cutting the semicircle in EC; it will be the line required.

[The rest in Volume.]

13337. (P. W. FLOOD.)—EULER says it would be difficult to find x so as to make $p^4-2p^2x^2+x^4+x$ a square; but show that it is not difficult.

Solution by J. W. WEST, Professor MUKHOPADHYAY, *and others.*

Writing the equation thus, $(p^2-x^2)^2+x =$ a square, and eliminating (y) from the simultaneous equations

$$p^2-x^2 = y, \quad x = 2y+1,$$

we obtain $\qquad p^2-x^2 = \tfrac{1}{2}(x-1);$

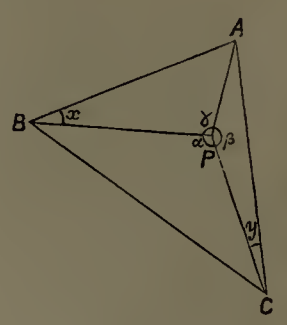
$$\therefore \quad x = \tfrac{1}{4}\left\{\pm\left[(4p)^2+3^2\right]^{\frac{1}{2}}-1\right\}.$$

1207. (N'IMPORTE.)—To determine the position of a rock (R), the angles subtended at it by the distances between three headlands (A, B, C) were observed, viz.,

$$BRC = 150°\,2'\,42'', \quad CRA = 133°\,25'\,57'', \quad ARB = 75°\,31'\,21'';$$

and it was known, from a previous survey, that AB = 8883, BC = 9870, and CA = 10857 yards. Find the distance of the rock from each of the headlands.

Solution by H. J. WOODALL, A.R.C.S.



This is POTHENOT's problem (HOBSON, *Trigonometry*, page 177). For notation see figure.

Therefore $\quad (B-x)+(C-y)+\alpha = \pi,$

but $\qquad B+C = \pi - A;$

therefore $\qquad x+y = \alpha - A.$

Again, $PA = c\sin x/\sin\gamma = b\sin y/\sin\beta;$

then put $\qquad \tan\phi = c\sin\beta/b\sin\gamma;$

therefore $\qquad \sin y/\sin x = \tan\phi;$

whence $\quad (\sin x - \sin y)/(\sin x + \sin y)$

$$= \tan(45°-\phi) = \tan\tfrac{1}{2}(x-y)/\tan\tfrac{1}{2}(x+y);$$

$$\therefore \tan\tfrac{1}{2}(x-y) = \tan\tfrac{1}{2}(x+y)\tan(45°-\phi) = \tan\tfrac{1}{2}(\alpha-A)\tan(45°-\phi).$$

[The rest in Volume.]

13385. (H. B. BILLUPS, B.A.)—Prove that (1) a, $-b$, $-c$ are the roots of the equation

$$x^3+2(s-a)x^2+\left\{(s-a)^2+r_a^2-4Rr_a\right\}x-4Rr_a(s-a) = 0;$$

and (2) $\cos A$, $-\cos B$, $-\cos C$ are the roots of

$$4R^2x^3+4R(r_a-R)x^2+\left\{(s-a)^2+r_a^2-4R^2\right\}x-(s-a)^2+(2R-r_a)^2 = 0,$$

so that the triangle is acute-angled or obtuse-angled according as $s-a$ is numerically greater or less than $2R-r^a$.

13358. (H. B. BILLUPS, B.A.)—P is the orthocentre of a triangle; show that PA, $-$PB, $-$PC are the roots of the equation

$$x^3+2(r_a-R)x^2+\left\{r_a^2-4R^2+(s-a)^2\right\}x+2R\left\{(2R-r_a)^2-(s-a)^2\right\} = 0.$$

Solution by the PROPOSER.

(13385) $y^3-fy^2+gy-h=0$ has roots $-s,\ s-c,\ s-b$, where

$f=-s+s-c+s-b=a-s,$

$g=-s(s-c)+(s-c)(s-b)-s(s-b)=\dfrac{\Delta^2}{rr_br_c}(-r_b+r-r_c)=r_a(r_a-4R),$

$h=-s(s-c)(s-b)=-\dfrac{\Delta^2}{s-a}=-r_a^2(s-a)\ ;$

$$\therefore\quad y^3+(s-a)\,y^2+r_a(r_a-4R)\,y+r_a^2(s-a)=0$$

has roots $\qquad -s,\ s-c,\ s-b.$

[The rest in Volume.]

13361. (W. C. STANHAM.)—Construct (a) a right-angled triangle having its angular points on the given rectangular hyperbola $x^2-y^2=a^2$ (rectangular coordinates), and its centroid at the point $(\frac{1}{3}a\cos\phi,\ \frac{2}{3}a\tan\phi)$, ϕ being any given angle; and show (b) that, both in this case and in the case in which the centroid is to be at the point $(\frac{2}{3}a\sec\phi,\ \frac{1}{3}a\cot\phi)$, the determination of the coordinates of the angular points of one such triangle will not necessitate the solution of an equation of a degree higher than the second.

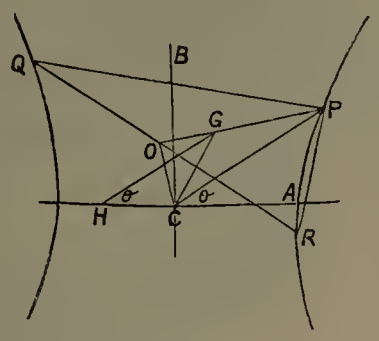
Solution by the PROPOSER, Professor RADHAKRISHNAN, *and others.*

Let G be the point

$(\frac{1}{3}a\cos\phi,\ \frac{2}{3}a\tan\phi)$,

or $(x,\ y)$, and let

$CG=r$ and $\angle GCA=2\theta$.



(a) Draw CP to the curve, bisecting GCA; CO at right angles to CP, meeting PG in O; and QOR parallel to the diameter conjugate to CO. Then PQR is the triangle required. For

$OR^2=OQ^2=CO^2+CP^2=OP^2,$

since conjugate diameters (*sic*) are equal, and diameters at right angles (*sic*) are equal. Therefore PQR is a right-angled triangle. Also

$$9r^2=a^2\cos^2\phi+4a^2\tan^2\phi;\quad\therefore\quad a\cos\phi\,(3r+a\cos\phi)=2a^2.$$

[The rest in Volume.]

QUESTIONS FOR SOLUTION.

13430. (Professor SYLVESTER.)—If the digits r in number of any integer N read from left to right be multiplied repeatedly by the first r terms of the recurring series $1, 4, 3, -1, -4, -3, 1, 4, 3, -1, -4, -3$, show that, if the sum of these products be divisible by 13, so N will be, and not otherwise.

13431. (Professor CROFTON, F.R.S.)—(1) If t, t' are the lengths of the tangents from an external point to an ellipse, and θ be the contained angle, prove that

$$(1/t+1/t')\cos\tfrac{1}{2}\theta=(1/r+1/r')\cos\tfrac{1}{2}\alpha,$$
$$(1/t-1/t')\sin\tfrac{1}{2}\theta=(1/r-1/r')\sin\tfrac{1}{2}\alpha,$$

where r, r' are the focal distances of the point, and α the angle they contain. Hence both the left-hand members are constant for tangents from one point to a system of confocal ellipses. (2) If tangents be drawn from a point to two confocal ellipses, the points of contact being A, B for the outer, a, b for the inner, prove that an ellipse may be drawn with a, b as foci, and having double contact with the outer, at A and B.

13432. (Professor C. COCHEZ.)—Construire la courbe

$$\rho=\frac{\sin\omega+\cos\omega}{(1+\cos 2\omega)^{\frac{1}{2}}}.$$

13433. (Professor MATZ).—Find (1) a square fraction the arithmetical difference of whose terms is a cube, and (2) find a cubic fraction the arithmetical sum of whose terms is a square.

13434. (Professor NEUBERG.)—En un point A d'une conique on mène la corde normale AB; en B on mène la corde BC perpendiculaire à BA, et de C on abaisse une perpendiculaire CD sur la tangente en B. Cette perpendiculaire rencontre AB en un point D. Démontrer que BD est égal au diamètre du circle osculateur en A.

13435. (Professor SCHMITT.)—A and B are two integers, A consisting of $2m$ figures each being 1, and B consisting of m figures each being 4. Prove that $A+B+1$ is a square.

13436. (Professor CLAYTON.)—If from any point (μ) on the conic $LM=R^2$ two tangents be drawn to the conic $LM=K\,.\,R^2$, the points where they meet the first conic again are of the form

$$\mu m,\ \mu/m,\quad\text{where}\quad m+(1/m)+2=4K.$$

13437. (Professor BERNÉS.)—Par le sommet de l'angle A du triangle ABC on mène deux isogonales quelconques Ax, Ay, et, par le milieu D de BC, on trace, entre ces deux droites, le segment MN partagé en D en deux parties égales. Les droites BN, CN rencontrant AM en β, γ, démontrer que les tangentes en B et C aux circonférences ABβ, ACγ se rencontrent sur AN.

13438. (Professor BARISIEN.)—Dans l'hyperbole équilatère deux cordes focales perpendiculaires ont des longueurs égales.

13439. (Professor H. LANGHORNE ORCHARD, M.A., B.Sc.)—Sum to n terms the series $\quad s=1+6+20+50+105+196+\ldots.$

13440. (Professor MARTIN.)—Two circles, whose diameters are 58 and 70 feet, have their centres connected by a line 192 feet long. I wish to describe another circle, whose diameter is 150 feet, with its centre somewhere on the connecting line, so that the aggregate area cut off by it from the other two circles shall be the least possible. Required the distance the centre of the cutting circle must be from the centres of the other two circles.

13441. (Professor BOGLE.)—A triangular piece of ground is 100 feet on each side. At each corner is a post, 40, 60, and 80 feet high, respectively. What length of rope fastened at some point within the triangle will just reach the top of each post?

13442. (Professor MORRELL.)—Transform

$$x^4+y^4+z^4-2y^2z^2-2z^2x^2-2x^2y^2 \text{ into a product.}$$

13443. (Professor WHITAKER.)—Water is running into a vessel in the shape of a frustrum of a cone, radii upper and lower bases 15 inche and 10 inches respectively and altitude 20 inches, at the rate of 10 cubic inches per second. When the depth is 8 inches at what rate is it increasing?

13444. (Professor K. J. SANJÁNA, M.A.)—Examine the accuracy of the following examples in a recent treatise on trigonometry:—(1) If

$$\cos(\beta-\gamma)+\cos(\gamma-\alpha)+\cos(\alpha-\beta)=-\tfrac{3}{2},$$

show that $\cos n\alpha+\cos n\beta+\cos n\gamma$ is zero unless n is a multiple of 3. (2) From the expression for x^n+1 in factors, deduce that

$$\tan^{-1}\left(\frac{\sin n\theta}{1+\cos n\theta}\right)$$
$$=\tan^{-1}\frac{\sin 2\theta\,[1-2\cos(\pi/n)]}{1+\cos 2\theta\,[1-2\cos(\pi/n)]}+\tan^{-1}\frac{\sin 2\theta\,[1-2\cos(2\pi/n)]}{1+\cos 2\theta\,[1-2\cos(2\pi/n)]}+\ldots.$$

[A short proof of the first example, which is correct, is required. The second example is incorrect, and when corrected leads to the evident identity $\frac{1}{2}n\theta=n\times\frac{1}{2}\theta$.]

13445. (Professor RAMASWAMI AIYAR, M.A.)—If a, b, c, d, ... be any series of positive quantities, and P/Q be any convergent of the continued fraction

$$\frac{a}{\sqrt{x}+}\ \frac{b}{\sqrt{x}+}\ \frac{c}{\sqrt{x}+}\ \frac{d}{\sqrt{x}+}\ \cdots,$$

prove that $P=0$ and $Q=0$ are equations in x having all their roots real. If P_n/Q_n be the nth convergent of

$$\frac{1}{\sqrt{x}+}\ \frac{1}{\sqrt{x}+}\ \frac{1}{\sqrt{x}+}\ \cdots,$$

show that $P_n=Q_{n-1}$, and find the roots of the equation $P_n=0$.

13446. (EDITOR.)—Prove that

$$4\left\{(a^2-b^2)cd+(c^2-d^2)ab\right\}^2+\left\{(a^2-b^2)(c^2-d^2)-4abcd\right\}^2=(a^2+b^2)^2(c^2+d^2)^2$$

13447. (D. BIDDLE.)—Given the perpendicular AD, and the ratios AE : EC, AF : FB formed by the feet of the other perpendiculars, construct the triangle.

13448. (Rev. W. A. WHITWORTH, M.A.)—If a coin be thrown $2n$ times, (i.) the number of ways in which heads and tails can fall is 2^{2n}, (ii.) the number of ways so that heads and tails are finally equal is C_n^{2n}; (iii.) the number of ways so that heads and tails are equal for the pth time at the $2n$th throw is $2^p pC_n^{2n-p}\div(2n-p)$; (iv.) the number of ways so that never in the course of the play are heads and tails equal is C_n^{2n}; (v.) the number of ways so that once and once only in the course of the play heads and tails are equal is C_n^{2n}; (vi.) the number of ways so that p times exactly in the course of the play heads and tails are equal is $2^pC_n^{2n-p}$.

13449. (H. MACCOLL, B.A.)—Let p be the chance that two classes taken at random under the same arbitrary restrictions, but independently of each other, are mutually exclusive; and let the three syllogistic classes X, Y, Z, and the *universe of discourse* U, be all four thus randomly formed. Show, by elementary algebra, that the chance of *Darapti* having true premisses and a false conclusion is $3p^2-3p^3+p^4$.

NOTE.—The premisses of *Darapti* are understood to assert (1) that nothing common to the classes U and Y is absent from X; and (2) that nothing common to U and Y is absent from Z; while the conclusion asserts that something common to U and X exists also in Z.

13450. (W. C. STANHAM.)—If A, B, C, D are concyclic points, and P, Q, R, S are the orthocentres of BCD, CDA, DAB, ABC, respectively, then P, Q, R, S are concyclic points, and A, B, C, D are the orthocentres of QRS, RSP, SPQ, PQR, respectively, and the quadrilaterals ABCD, PQRS are equal and similar.

13451. (R. KNOWLES, B.A.)—From a variable point T on the tangent at the vertex A of the parabola $y^2=4ax$, tangents TA, TP are drawn; the circle PTA cuts the parabola given in CD; the diagonals CA, PD intersect in G. Prove that the equation to the locus of G is $ay^2=2x^2(x-a)$.

13452. (R. F. Davis, M.A.)—If P be a point within the triangle ABC such that $PA/\sin A = PB/\sin B = PC/\sin C = 2\rho$, determine ρ, and prove that $3\rho^4 = \rho^2(R^2+\delta^2)+R^2\delta^2$ (where O = circum-centre, R = circum-radius, and $OP = \delta$). Upon what well-known line docs P lie?

13453. (P. W. Flood.)—Find three numbers whose sum shall be a square, the sum of every two of them a square, and the first and second squares severally.

13454. (W. J. Dobbs, M.A.)—Four coplanar forces in equilibrium act in the lines AB, BC, CD, DA, and their magnitudes are proportional to CD, DA, AB, BC, respectively. Prove that *either* the points A, B, C, D are concyclic, *or* each is the orthocentre of the triangle formed by the joins of the other three.

13455. (Rev. J. Cullen, B.A.)—A uniform circular board of mass m and radius a, whose centre is fixed, lies on a smooth horizontal plane. A man, whose mass is m', starts from the centre and returns to the same point after describing a loop of the lemniscate $r^2 = a^2\cos 2\theta$ (the node being at the centre). Find the angle through which the board has turned.

13456. (R. W. D. Christie.)—If p be a prime the product of $p-1$ natural numbers taken 1, 2, 3, ... $p-2$ at a time is exactly divisible by p (Wilson's theorem is a corollary), *ex. gr.*, $p = 5$, then

$$4P_4+1 = 4!+1 = 5\,(M),\quad 4P_3 = 50 = 5\,(M),\quad 4P_2 = 35 = 5\,(M),$$
$$4P_1 = 10 = 5\,(M).$$

13457. (Morgan Brierley.)—Three circles are given in magnitude and position; it is required to determine a point from which, if a tangent be drawn to each circle, one of such tangents shall have a given length, and the other two a given ratio one to the other.

13458. (G. N. Bates, M.A.)—If $1/(nr-1)$ be converted into a circulating radix fraction of form $\dot{a}_m a_{m-1} \ldots \dot{a}_1$ in scale of r, show that

$$a_1 = 1,\quad a_2 = na_1 - p_1 r,\quad a_3 = na_2 + p_1 - p_2 r, \qquad 7$$

and generally

$$a_s = na_{s-1} + p_{s-2} - p_{s-1} r, \qquad 5$$

where p_1, p_2, &c., are integers selected, so that $0 \not> a_s \not> r-1$. 35

Hence any fraction in scale 10 not of form $1/(2^n 5^m)$ can be converted 28
easily into a recurring decimal from the end backwards by a process 42
of multiplication. Thus 14
21

$$\tfrac{1}{7} = \tfrac{7}{49} \qquad 28 = 5\times 5+3,\ \text{\&c.}$$
$$= \cdot\dot{1}4285\dot{7}, \qquad 7$$

13459. (Charles Mitchell.)—Two points $2\frac{1}{4}''$ apart are the centres of two circles of radii $1''$ and $\frac{5}{8}''$ respectively. Find, by a geometrical construction, the locus of points such that the difference of the squares of tangents drawn to the two circles from any point on the locus shall be equal to one square inch.

13460. (I. Arnold.)—Through a given piont outside or inside a given triangle to draw a right line bisecting the triangle.

NOTICE TO CORRESPONDENTS.

Owing to the Mathematical Editor's illness, it is requested that, till further notice, all Mathematical communications should be sent, not to the Editor's private address as heretofore, but to

D. Biddle, Charlton Lodge, Kingston-on-Thames.

NOTICE.—Vol. LXVI. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.; to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

February 11, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Present ten members.

Mr. F. S. Macaulay, M.A., read a paper on "A Theorem in non-Euclidean Geometry." An animated discussion followed, in which the President and Messrs. Kempe, Cunningham, and Love joined with the author.

An impromptu communication was made by Mr. Kempe, F.R.S., in connexion with Prof. Sylvester's communication at the January meeting. The President and Major MacMahon, R.A., spoke on the subject.

The President (Major MacMahon in the Chair) gave a short account of Mr. Segar's theorem that the product of the differences of n unequal numbers is divisible by the product of the differences of $0, 1, 2, \ldots (n-1)$, and showed also that the product of the differences of n unequal square numbers is divisible by the product of the differences of $0^2, 1^2, 2^2, \ldots (n-1)^2$.

Lt.-Col. Cunningham brought forward some 43 primes, of which the lowest was 9,170,881, and the highest 25,621,901.

A paper by Mr. H. M. Taylor, M.A., on "The Degeneration of a Cubic Curve," was communicated by reading its title.

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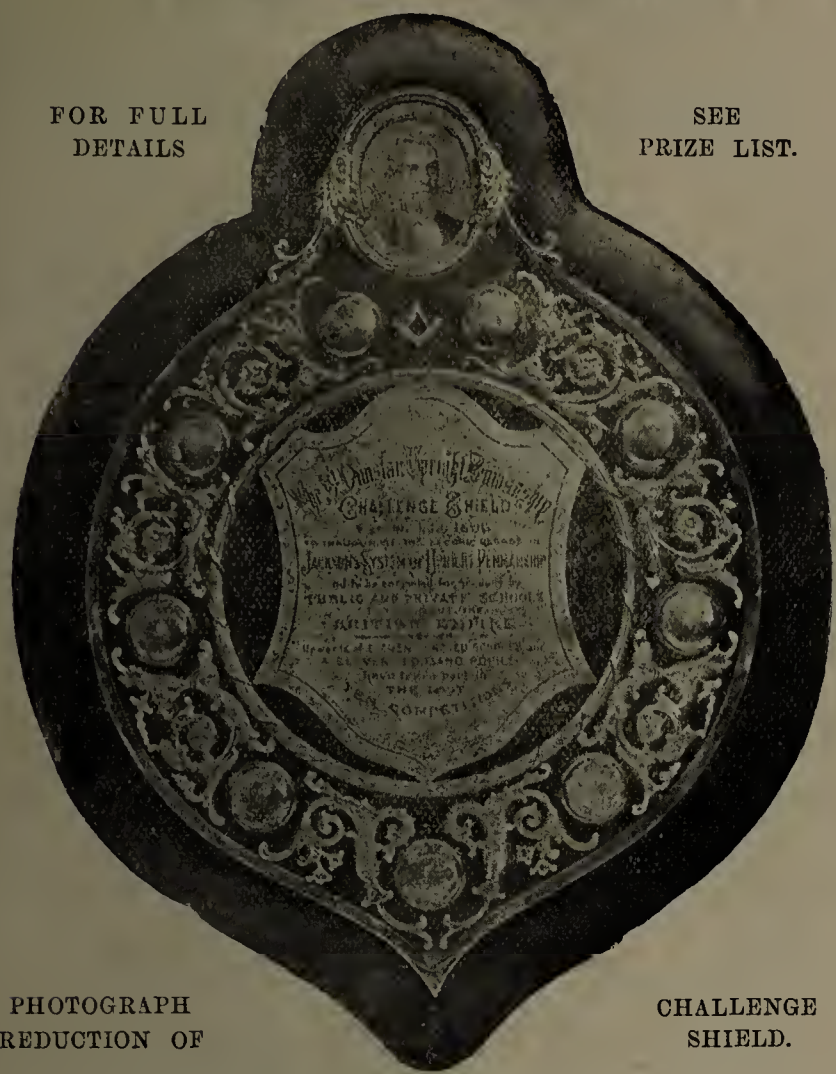

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The Educational Times.

The Editor will be glad to consider any Manuscript which may be submitted to him, whether of short special articles or of concise Correspondence on questions of present educational interest. He will also endeavour to give publicity to contributed items of news relating to Secondary Schools, Colleges, and the general interests of Education.

*All such communications should be addressed to the Editor of the "*Educational Times,*" 89 Farringdon Street, E.C. They must be authenticated by the names of the writers; and, if a stamped and addressed envelope is enclosed, unsuitable Manuscripts will be returned.*

The Title of a Degree.

The findings of the "Degrees for Women Syndicate" should commend themselves to all concerned, except the extreme section of opponents who are represented by Professor Case. The Syndicate recommend the Senate of the University of Cambridge to grant by diploma the title of B.A. to all women students who have fulfilled the conditions laid down by the existing ordinances, who have satisfied the examiners in a final Tripos, and have kept nine terms' residence. They recommend that this provision should also be made retrospective, and, further, that titles of degrees of Master and Doctor should be conferred by diploma under requisite conditions.

The Syndicate are not prepared to recommend that women should be admitted to membership of the University. And, indeed, no strong desire has been shown by women to obtain this privilege. The old argument, then, that a degree necessarily implies membership of the University, no longer bars the way; and it seems to us that an excellent escape—and, indeed, the only satisfactory escape—has been found out of what bade fair to become an *impasse*. It is quite clear that in the professional world a lady who has studied at Oxford or at Cambridge is, for the moment, at a distinct disadvantage in comparison with a graduate of Victoria or of London. It is equally clear that, as time goes on, a degree will become more and more necessary to a woman candidate for scholastic posts. The letters B.A. and M.A. are familiar and easily understood. No other letters would, in the eyes of the public, and consequently of governing bodies, have the same value. The corollary is obvious: women must have the title of a degree at the older Universities, or they will tend more and more to attach themselves to the newer.

But Oxford and Cambridge do not wish to drive out women. There is a strong body of testimony from professors and lecturers in support of the desirability of making lectures open to both sexes. No serious inconvenience has been adduced, and no strong objection has been made. The love of undergraduates for the *status quo* is well known and easily understood. But their opposition is not to be taken seriously, whether it arises from a feeling of fear lest a man may be unable to keep ahead of a woman in their joint studies, or from unwillingness to share existing endowments with the unendowed sex.

The opposition of those who say that no women should be admitted at all, and that by admitting them the Universities are preventing women from obtaining a magnificent University all of their own, is more insidious, and is, indeed, logical. But this opinion does not seem to be widely held; and we maintain firmly that there is no middle course. Women must be able to write B.A. and M.A. after their names, or Newnham and Girton will know them no more. And this is not a consummation that Cambridge, on the whole, desires. We also hold that there are many advantages in the co-education of the sexes at the University stage. The system is common in the United States of America, and we believe that in nearly every case the experiment has been found to work well, and has converted half-hearted distrust into enthusiastic welcome on the part of the authorities. The twenty or more Universities of the United States are, with one or two exceptions, open to women. France and Belgium make no statutory difference between the sexes. Italy and Spain, for the most part, follow France. Further north there is positive enthusiasm to make the way smooth for women students — in Holland, Denmark, Finland, Sweden, and Norway. Even in Germany a considerable movement in this direction is already on foot, and some Universities have opened a narrow door for women.

To come back home again—London, Victoria, Wales, the Royal University of Ireland know no distinction of sex, and in Scotland almost universal entrance has been won. Oxford and Cambridge have welcomed women, and treated them with every possible *courtesy*. But matters cannot stop here. Women must have a right to what at present they enjoy by courtesy. If this right—and we are only advocating, be it remembered, the title of the degree, not full membership of the University—if this right be not granted, women will inevitably drift to other seats of learning, both to their own loss and to the loss of Oxford and Cambridge. And, further than this, the older Universities will have lost a splendid chance of impressing the stamp of their unique culture upon a large and increasing section of earnest students. But we trust that the Cambridge compromise will be accepted by both Universities, as well as by the champions of the women students.

The Note of Utility.

To those who have the welfare of the nation at heart, and believe that a right education is the foundation of a country's greatness, certain words which the Archbishop of Canterbury lately uttered at Rugby must have come with welcome force. "Men's minds," he said, "had been opened to see the great truth which on every occasion of his life Dr. Arnold perpetually illustrated—that, in education, character must always stand above everything else." Notable, too, was a recent declaration of the eminent chemist, Dr. Mond, that the chief value of chemical training consists in the discipline it affords as a branch of general education. Why are these utterances so welcome? Because they stand in direct opposition to that standard of mere utility which so many writers have lately advanced, and which is so prominent a feature in the minds of modern parents. The latter have long been crying: "Give our children what will make them clever breadwinners," and many of the former have pandered to their cry. Locke was one of the first to utter this cry for what would afterwards prove useful, rather than for what afforded the best training. In the same spirit, Herbert Spencer declares that knowledge of intrinsic value is the most important, and advocates the teaching of one generation of children how to bring up a generation yet unborn. He belittles Latin and Greek because they are of no use in shop, office, bank, or railway-station. He will have science taught because it is so much more useful in a scientific age, which is learning more and more to substitute machinery for manual labour. A far different type of man, Dean Hole, utters the same thought in his "More Memories":—"Landowners coming into the possession of their estates without a notion as to their management hardly regard the 'Idylls' of Theocritus or the 'Bucolics' of Virgil as satisfactory."

Leave writers on education, and question parents as to their views. Invariably they ask that their sons should be taught what is immediately useful in passing an examination, or will help to advance them to positions of influence and standing in the immediate future. The notion that the object of school is to train and develop is not recognised by the majority of middle-class parents. Their sons reflect the paternal ideas only too faithfully. The writer lately asked two classes of boys what they considered to be the value of a study of Euclid. Out of nearly forty boys, only one thought of its value in training the mind; about three-quarters considered it of no earthly use whatever; the remaining quarter believed that it would make them better blacksmiths, better carpenters, better engineers, or better mechanics than they would be without its aid.

The air is full of talk about education—technical education, commercial education, and secondary education. The old grammar schools are adding technical subjects to their general curriculum, and schools are springing up on every hand with the professed object of selling to boys' parents such commodities as will make their boys, when grown into men, most successful worshippers at the shrine of the god Plutus. Hence it seems by no means inopportune to insist that, while so much interest is being taken in educational problems, writers and authorities on education should use the opportunity of setting higher ideals before people's eyes, and reminding them that a man may be a good breadwinner but a very contemptible person for all that, while another man may be very successful in life who was trained at school by all manner of studies which have been of no immediate use to him, but which so developed his mental faculties that he has since been able to apply them successfully to very different subjects. The object of school is to train the whole boy. Rousseau summoned his pupil to prepare for the vocation of human life. Living is the purpose of men's lives, not money-getting alone.

The ideas of most parents involve a *reductio ad absurdum*, for, logically, they ought to turn their children out to fight their way like London *gamins*, or else clamour for schools which teach nothing but trades and professions. The ideal school to meet their requirements would be one which had a merchants' class, a clerks' class, a grocers' class, and so on. When their sons left such a school they would then be qualified to earn a living, as far as practical knowledge goes. Yet picture the mental and moral constitution of the nation after half a century of such schooling as that suggested! Mr. Ruskin has been much concerned about the unlovely aspect of English life, but his successor would be constrained to live very much like the ostrich in time of danger, with his head in the sand. In opposition to the standard of mere utility, parents should be asked to consider the prior need of training both mind and character. If they choose subjects from this motive, they will be more likely to advance the welfare of the next generation, which Kant declared to be an important principle of education.

NOTES.

In the course of the debate on the Education Bill, Sir John Gorst supplied the House with the names of the Committee of the Privy Council who are said to control the Education Department. But he added, in answer to a further question, that he could not say when this Committee last met. It has generally been assumed that the Vice-President of the Privy Council has practical control of Whitehall; but this year we cannot be sure whether it is the Lord President (the Duke of Devonshire) or Mr. Balfour who has done most in the replacing of Sir John. At any rate the Vice-President has scarcely taken any part in the discussion upon the Voluntary Schools Bill, which will probably have become law before this note appears in print. Mr. Balfour implied, in answer to a question, that there was little hope of the introduction of a Bill dealing with Secondary Education during this Session. This news will be received in different ways by different parties. We had been promised a Bill, and most of us desire one: on the other hand, there is some feeling of distrust, and a certain fear lest a Bill, introduced without further consideration, might be antagonistic to the true interests of education.

The Education Code for 1897 does not differ largely from its predecessors. But we note that the Training College of the Preceptors is recognised by the Department for the purposes of Art. 60. That is to say, a graduate of any University, having also a diploma in the theory and practice of education, is now qualified for appointment in an elementary school without further examination. There is certainly a danger lest elementary teachers should tend to become a narrow professional body, and no harm will come of the recruiting of their ranks by men and women who have received their education and training

elsewhere than in an elementary school and an elementary training college. A slight increase is made in the possible number of pensions, but, of course, very trifling in comparison with the numbers concerned. Domestic science appears for the first time as an "optional specific subject." And in these "specific" subjects the grant will cease to be made on individual scholars, but will be assessed by the inspector on an examination of the whole class.

Everyone is more or less trying to make capital out of the Diamond Jubilee, and we do not see why we ourselves should be overlooked. Our stock of blue pencils is running low; and we humbly suggest that here is a splendid opportunity for our admirers to testify to the excellent use we have made of these same pencils in the past. But we would not be misunderstood. While feeling an inclination to scoff at the many Jubilee appeals which have attacked our pocket, we yet are quite sure that there are many rich Englishmen anxious and willing to take this opportunity of displaying a wise and liberal generosity. It is not likely that the claims of education will be overlooked. The country is gradually coming to feel that we are in many respects behind the times, and that education must be further endowed by either private generosity or public funds. At the present time there are two chief wants—colleges for women and training institutes for men. Fifty thousand pounds would give a fair start to one of either. There are, of course, a host of other needs, *e.g.*, a psycho-physical laboratory, and schools for weak-minded children.

St. Andrews is still fighting "modernity," in the shape of Dundee University College. We can appreciate, if we cannot commend, the reluctance of this small and ancient University to undertake the control of the young and lusty giant of Dundee, whose tastes are mainly for science and medicine. But the public are growing tired of the long dispute; they want to see the northern Valentine and Orson set out on their journey in amicable mood. St. Andrews (as represented by a majority of two or three in the University Court) began by resisting the Universities Commission, and is now resisting the Privy Council, having opened up fresh legislation on the ground that Her Majesty in Council misplaced a comma in quoting the original ordinances, or something almost equally trivial. The more we are inclined to sympathize with one aspect of the case for St. Andrews, the more clear we are that the Marquis of Bute and his majority, with Professor Birrell for their latest recruit, are twirling their mop in vain in the face of modernity.

We are glad to think, and we believe we have sufficient ground for thinking, that the non-collegiate students at Oxford and at Cambridge are steadily winning for themselves a fair recognition from the Universities. This result is being brought about by the zealous work and careful organization of a few men who think it a pity that an earnest student should be debarred from opportunities of higher education because he cannot afford to live up to the College standard of luxury. The position is somewhat analogous to that of a day-boy at one of the big public schools. But those who know Clifton College know how closely the position of a day-boy resembles that of a boarder. The one has equal privileges and opportunities with the other. If this can be achieved at Clifton it can be achieved elsewhere. With the examples of the Scotch and German Universities before us, we are assured that Oxford and Cambridge would be greatly strengthened and stimulated by a strong body of students outside the hot-bed life of the colleges.

The words "made in Germany" are seen upon nothing more often than toys of all kinds. It will, therefore, be welcome news to many that the English toy industry in the counties of Wilts and Dorset is decidedly flourishing. The toys are made by peasants in the long winter evenings. The manufacturers rapidly become "skilled labourers," and are said to earn up to thirty shillings a week. There is a growing demand for these English-made toys, which consequently fetch good prices. At a recent meeting of the Technical Education Committee of the Cambridge Town Council, a large number of "Wilts and Dorset toys" were exhibited, and excited keen interest. They were rather substantial than elegant in construction; indeed, a destructive-minded child might find his match in their John-Bull robustness; but on the whole this is far from being a demerit, and is in marked contrast to the flimsiness of the German fabrications. The Cambridge Committee consulted a skilled workman, who stated that the outlay in tools, and the amount of training necessary for the construction of these toys, are alike small; they therefore decided to start a class at the Technical Institute forthwith. We commend their example to other counties, especially for the benefit of crippled paupers who still have the full use of their hands, and who can in this way keep clear of the "House," and support themselves in comparative comfort.

The death of Professor Daniel Sanders, who was the last of the brilliant line of German philologists of the last two generations, is a decided loss for Teutonic scholarship. After studying at the Universities of Berlin and Halle, he settled in his native town of Alt-Strelitz, where he conducted a large school. Fortunately for science, the school ceased to exist in 1852, and Dr. Sanders devoted himself exclusively to philology. In 1859 he published the first part of his great "Wörterbuch der Deutschen Sprache," and, after incessant work during the next seven years, he had the satisfaction of seeing his dictionary complete in three volumes. He had worked single-handed, and the difficulty of his task was increased by the circumstance that, chiefly for economy of space, he arranged the dictionary according to roots. In 1885 he published a supplementary volume, and then proceeded to the gigantic task of welding the original dictionary and the "Ergänzungs-Wörterbuch" into one volume. When this was done he had the mortification of not being able to find a publisher enterprizing or patriotic enough to publish the lexicon at his own risk. Nor did any learned German society or great library feel inclined to undertake it. Fortunately, our own National Library came to the rescue. The British Museum purchased the manuscript, which may one day appear in print. Dr. Sanders was also a distinguished modern Greek scholar.

SUMMARY.

THE MONTH.

The Government have secured their Primary Education Bill, Mr. Balfour having piloted it through Committee without amendment. Unionists voted with the Opposition in favour of including representatives of the teachers on the governing bodies of the associations—Mr. Courtney, Mr. George Dixon, Mr. Ernest Gray, Mr. Hobhouse, Mr. J. H. Johnstone, Mr. Monk, and Mr. Younger. On the other amendments there was little cross-voting. Mr. Dixon regularly voted with the Liberal Party. Mr. Samuel voted for Mr. Griffith's "laymen" amendment, and Mr. Radcliffe Cooke for Mr. Asquith's, securing Parliamentary control. But, on the whole, the Government had a blank cheque from their party, and filled it in for £610,000. The Church schools are now permanently endowed.

We stated some time ago that Sir Joshua Fitch had been invited by the Public Libraries Committee of Newcastle-on-Tyne to inquire and report, as an independent expert, upon the technical education given in the city, and to advise upon the manner in which the Local Taxation grant might be most advantageously applied in the promotion of technical instruction. Sir Joshua's report, which has now been printed by the Committee, passes in review the institutions amongst which a total sum of £3,693 was distributed last year—the Royal Grammar School, St. Cuthbert's Roman Catholic Grammar School, the Elswick Works Institute, the Newcastle School Board, for evening continuation schools, Rutherford College, the Durham College of Science, Allan's Endowed Schools, the School of Cookery and Household Economy, and the Public Libraries. After a detailed survey of these institutions, Sir Joshua makes sundry recommendations, advising collaboration between Rutherford College and the College of Science, a modification in the method of awarding scholarships to boys and girls from the elementary schools, a system of public lectures, the establishment of a high school for girls, and so on.

Sir Joshua makes some excellent remarks, which we will attempt to emphasize by quotation, on the need of grants for general secondary as well as technical instruction:—

> All recent experience derived from observations and reports concerning foreign countries leads to the belief that what we want most both for the maintenance of our industrial supremacy, as well as for the development of our yet unused resources and opportunities, is a wider diffusion among us of general intelligence and culture. The readers of the remarkable and interesting supplementary report of the Royal Commissioners on technical instruction—Sir P. Magnus, Mr. Redgrave, Mr. Swire Smith, and Mr. Woodall—will deduce from the visits of those gentlemen to Germany two inferences: (1) That, for the rank and file of industrial workers, we need not so much an elementary acquaintance with several science subjects as, first of all, a sounder and more general intellectual training prolonged beyond the ordinary school age, and, secondly, manual skill and a particular knowledge of those materials and forces which the learner has to use, and of the special science which is most closely related to them. (2) That, for the employers of labour, heads of firms, and captains of industry, there is needed in like manner the foundation of a liberal education. A very large proportion—much larger than in our own country—of the directors of great works in Germany are university graduates, who have added to their general education the specific study of the sciences most nearly akin to their own trade. And if Germany or France rivals and sometimes outstrips us in the markets of the world, it is not because their people excel us in industry, in natural ability, or in manual dexterity, but simply because in both countries there is a better organized system of general secondary instruction, and because more importance is attached to the sort of training which strengthens the faculties of reasoning, of observation, of imagination, and of inventiveness, and which enlarges the range of the learner's thoughts and develops his best powers.

On March 17 was held the first meeting of a new Joint Committee which had been convened by the Council of the Headmasters' Association. Last year the Council appointed a Committee of its own to inquire into the training of teachers for secondary schools, in the hope of devising some practical recommendations. As a first step, they set to work to gain information, and a series of reports were prepared, the last, and perhaps the most valuable, being a summary, by Mr. W. H. Hardman, of the findings of the Royal Commission, which was published as an article in the *Educational Times* of February last, and has since been reprinted in pamphlet form. The headmasters felt, after gathering this information, that their work would be better done, and have more permanent value, if they were assisted by representatives from other teachers' societies. They therefore appointed four of their members, with one of the Secretaries of the Association, to meet representatives from the Headmasters' Conference, the Headmistresses' Association, the Association of Assistant-Masters and Assistant-Mistresses, the Headmasters of Preparatory Schools, the College of Preceptors, and the Teachers' Guild; and, when constituted, to invite also four other teachers as co-opted members. The members of the Committee are as follows:—Dr. Flecker, Dr. Poole, Mr. Mackie, Mr. W. Taylor, and either Dr. Scott or Mr. Swallow, from the Headmasters' Association; Miss Day and Miss A. J. Cooper, Headmistresses'; Mr. C. C. Lynam, Preparatory Schools'; Miss Lumby, Assistant-Mistresses'; Mr. J. W. Longsdon, Assistant-Masters'; Mr. Charles, from the College of Preceptors; Mr. F. Storr, from the Teachers' Guild. The Headmasters' Conference declined to nominate, on the ground that their body had not yet arrived at a collective policy as to training, but the Council will be represented by Mr. Vardy, of Birmingham, and Mr. Findlay. The Committee have invited Mr. Sadler, Mr. Arthur Sidgwick, Principal Withers, and Miss Alice Woods, to serve as co-opted members. Dr. Flecker was appointed Chairman, Mr. Longsdon, Treasurer, and Mr. Findlay, Secretary. Arrangements were also made to have the material gathered by the previous Committee placed in the hands of members, to assist their future deliberations, and it was decided to commence the inquiry at the next meeting by a consideration of resolutions framed to deal with the topics in § 3 and § 4 of the Findings of the Royal Commission. The Committee will meet again before Easter, and at short intervals during the year. There is some ground for hoping that its investigations will bring us nearer to the solution of one of the most difficult problems which we have to face in organizing Secondary Education.

The Syndicate appointed at Cambridge University to consider the advisability of granting degrees to women have presented their report to the Senate. It is summarized by our Cambridge correspondent. There is a minority report from five members of the Syndicate. The resolution which the dissentient members would have wished to recommend to the Senate, as alternative to the proposal to grant titles of degrees to women, is as follows:—

> That it is desirable that the University should confer by diploma the title *Magistra in Litteris* or *Magistra in Scientia*, as the case may be, or some other title not being the title of a degree in the University, upon women who shall have passed a tripos examination by which a member of the University may become qualified to proceed to a degree, and shall also have satisfied such other conditions as may be required of them by the University.

The first meeting of the Pestalozzi Society was held at the College of Preceptors on the evening of Monday, March 15. The following ladies and gentlemen were present:—Mr. A. J. Adamson, Mr. E. Cooke, Miss Crombie, Miss F. A. Field, Mr. and Mrs. J. C. Hudson, Miss Latter, Mme. de Leeuw, Mr. J. Russell, Mr. M. E. Sadler, Mr. and Mrs. A. Sonnenschein, Mr. H. Swan, Miss A. J. Ward. The chair was taken by Mr. Sonnenschein, who was also proposed as President, but he declined the office in favour of Mr. Sadler. The purpose of the Society was defined as being the better understanding and wider dissemination of the ideas and works of Pestalozzi. The Society will endeavour to accomplish its objects within three or four years. Mr. E. Cooke was elected Secretary, and Miss Crombie Treasurer. The next meeting will take place on Monday, April 5, at Howard House, Arundel Street, Strand, at 7.45 p.m.

The Civil Service Estimates for Education, Science, and Art for the year ending March, 1898, allot £3,265 for the purposes of the University of Wales, being an increase of £265 upon the amount allowed for 1896–97. The Victoria University gets £2,000, which is the same as the preceding estimate. No grant in aid of the building funds is ear-marked for either Aberystwyth College or the University College of South Wales, being a saving to the Imperial Exchequer on this head of £5,000 and £10,000 respectively. The grant in aid of the expenses of the University Colleges of North Wales, South Wales, and Monmouthshire and Aberystwyth is the same as before—viz., £12,000. The grant for intermediate schools in Wales is £19,293. 3s. 6d.,

compared with £12,178, or an increase of £7,115. Glamorganshire, exclusive of county boroughs, gets £5,738, the total amount produced by a county rate of ½d. in the £ for one year being estimated at £5,100. 9s. 11d. The grant for twelve months in respect of the Cardiff Intermediate Girls' School, established prior to 30th June, 1896, is £2,120, representing the total borough rate of ½d. in the £; that for Swansea is £650, and that for Newport £700, being the first grant received by that borough in respect of its intermediate schools.

Lord Balfour of Burleigh, appealed to by a deputation on behalf of Gaelic teaching in Highland schools, replied (March 6) that it was not the policy of the Scotch Department to suppress Gaelic, but he could not promise to foster it artificially. The movement for the teaching of Gaelic in Highland schools first commenced in 1876; and in 1884 an inquiry was held, and it was ascertained that there was a unanimous feeling amongst School Boards throughout the Highlands that, though they were anxious to take advantage of the option in respect to the Gaelic language, they would resist any action of the Department in making Gaelic compulsory. At present he (Lord Balfour) could not promise that the provision would be materially altered, and the precedent of Wales would not take them quite so far as some appeared to think. The Department were in favour of the use of Gaelic for explaining English and getting hold of the intelligence of the scholars.

The work of the Teachers' Training Syndicate at Cambridge during the past year is the subject of an interesting report, which shows that it is doing unmistakably valuable work. Examinations following lectures were held at six centres in June, viz., London, Cambridge, Cheltenham, Edinburgh, Aberystwyth, and Dublin, in which 101 candidates offered, 14 gaining a first-class, 63 a second-class, and 13 a third-class. In December the examinations were held at London and Cambridge, when 56 were examined, 9 obtaining first-class, 25 second-class, and 16 third-class. Fifty-three obtained the first-class in practical efficiency, 61 the second-class, and 21 the third-class, only three of the whole who offered failing. Professor J. Sully, Mr. F. Storr, and Sir Joshua Fitch were the examiners.

Miss Maria Dawson, a student of the University College of South Wales and Monmouthshire, and of Aberdare Hall, Cardiff, has recently been awarded an 1851 Exhibition Scholarship for Research in Science, of the value of £150 per annum for two years. The condition attached to the scholarship is that the research undertaken must have some bearing on the industries of the country. Miss Dawson will, in October next, proceed to Cambridge, where she is to work under Professor Marshall Ward, her subject being "Nitrogen and the Nodules of Leguminous Plants."

UNIVERSITIES.

(*From our Correspondents.*)

Oxford.

The event which has created most general interest at Oxford during the past month has been the visit of Dr. Nansen, who received the honorary degree of D.C.L. on March 18. The Sheldonian Theatre was crowded. Undergraduates only were admitted to the upper gallery, an arrangement which has been for many years discontinued at the Encaenia. They were not very witty, but they cheered loudly, and on the whole allowed Professor Goudy's speech to be heard. Dr. Nansen received two bouquets, a rather novel spectacle at the conferment of degrees.

The performance of the "Knights" was scarcely so successful as that of the "Frogs" some years ago. The play is less attractive, being somewhat monotonous, and depending greatly for its interest on a knowledge of contemporary politics. The scene where the chorus, mounted on little hobby horses, and armed with bladders hanging from sticks, belaboured Cleon, was very bright, and the Tongue scene, where they represented the audience, and helped to point the speeches of Cleon and the Sausage-seller, was well managed. The transformation of Demos was not very effective, but the final dance, when Cleon was bound round with long strings of sausages, was good. The Sausage-seller was very comic, both in make-up and acting; Cleon was, perhaps, a trifle too strenuous.

A proposal to alter Pass Moderations in the interests of the history and law students has been unsuccessful, but it is to be hoped that some change may be made in the School before long, or that men may be allowed to take it before the end of their first year of residence. The work is not enough to occupy a man's time for three terms, and it is difficult to induce him to begin work for his Final school till his Pass schools are finished. The statute that was rejected proposed to allow Political Economy to be substituted for Logic, French or German for Latin prose, History or Law for one Latin book. If the historians would, as the lawyers and scientific men have already done, devise a Preliminary Examination suitable for their own School, and leave Pass Moderations alone, they would have more chance of success.

The Delegates of Local Examinations have issued the syllabus for the examination on the Theory, History, and Practice of Education, but have as yet made no arrangements for lectures or for work in schools. The subjects required are the elements of psychology, history of education (a special period being prescribed), the practical knowledge of educational method, and a special subject. Members of the University are admitted to examination only after seven terms' residence, but are not required, as is the case with other men, to have actually qualified for the degree. For the first time the resident women students of the Association for the Education of Women are placed on a different footing from the non-residents, and are formally recognised by the Delegacy. They are admitted upon terms corresponding to, though not actually identical with, those imposed on undergraduates, while a higher examination qualification is required of non-residents. It is understood that the Delegates have appointed a lady well known in the educational world to direct the work of the women students, but most of the lectures will, no doubt, be open to both sexes.

The publication of the report of the Cambridge Syndicate appointed to consider the conferring of degrees on women has excited much interest among the friends of women's education. The project of a women's University has never received the slightest support from those of them who are actively engaged in the organization of the work, and is, on the face of it, absurd. The fancy degrees would not at all meet the difficulty of obtaining proper recognition for a University education, and, although the compromise proposed by the Syndicate is not all that could be desired, it is probably all that has any chance of success, and would be of enormous service to women. If successful, the effect upon the position of the Oxford students will be at first, no doubt, injurious; but, as in all important matters the Universities move together, it is to be desired as being likely in the long run to secure the degree for women at Oxford. It is interesting to notice that the attendance of women at University and college lectures is far greater at Oxford than at Cambridge, and that, whereas at Cambridge six colleges refuse to admit women to lectures, at Oxford there is only one. Oxford women have no reason to envy those studying at Cambridge for their educational advantages, and, in some respects, such as admission to the University libraries, they enjoy more facilities for study.

Professor Sylvester, whose death was announced a few days ago, had been for some time unable to lecture, and a deputy had been appointed. It is reported that a petition has been sent in to the Master of Balliol, Dr. Caird, begging him to offer himself as a candidate for the Professorship of Moral Philosophy, vacated by the death of Mr. Wallace, and it is hoped that he will consent to do so. Professor Sollas has been appointed to the Geology chair. The two new Proctors are Mr. Wells, of Wadham, and Mr. Baker, tutor to the non-collegiate students, and himself a member of the body.

Cambridge.

This term has been an unusually busy one for members of Syndicates and the rapidly increasing class of those who interest themselves in University business. The undergraduates may have found it a dull term, but their seniors have had exciting, if not always profitable, experiences.

The regulations as to advanced students have now practically reached their final stage: the general Board of Studies has defined, with the advice and assistance of the various special boards, the standard of qualification to be attained by those who wish to enter the University as advanced students. Roughly speaking, in Law a first-class standard is to be gained in either part of the Tripos; in Mathematics a second class in Part II.; similarly in Classics, a second class in Part II.; in Science a first class in Part II., without any condition as to

competent knowledge of a second subject. In case of failure to reach the required standard, a candidate may be re-examined only after obtaining special leave of the Board with which his work is connected. The regulations were adopted by the Senate without any discussion or opposition.

A new body has been created in the University, namely, a Board for Indian Civil Service studies, with the object of giving the numerous distinguished men engaged in training the future rulers of India some sort of University status as lecturers recognized by a special Board. There is no doubt the step suggested will remove much friction and facilitate the administration of this important department.

Of course, the great and all-pervading subject of discussion has been the report of the Syndicate on Degrees for Women, which was published on March 1. The Syndicate put themselves in communication with all persons and bodies who were competent to give information, including representative signatories of the various memorials, the heads of Girton and Newnham, the secretaries of the Local Examination and Lectures Syndicate, and various bodies which may be considered representative with regard to the education of women. To put the matter briefly, the Syndicate collected all the evidence available from every quarter in favour of the admission of women to certain privileges in the University, and eventually formulated a report to the following effect:—(1) Women who pursue the courses of study and examination now open to them in the University are at an unnecessary disadvantage in consequence of their not being allowed some well-recognized title. The Syndicate are not prepared to recommend that women should be admitted to membership of the University. It is desirable that women should receive by diploma the title of the degree of B.A., on fulfilling the conditions laid down by the University. (2) As the B.A. degree is, in the case of men, a regular stepping-stone to the degree of M.A., it is proposed that a similar procedure should be adopted in the case of women, who would of course take the title of the degree instead of the full degree. (3) It is proposed that the titles of the degrees of Sc.D. and Litt.D. should be conferred upon women on precisely the same terms as the corresponding full degrees are conferred upon men. (4) In medicine and divinity it is not proposed to confer titles of degrees on women. (5) In exceptional cases it is proposed to confer the titles of degrees upon women of conspicuous merit, *honoris causa*, as in the case of men. (6) Students who may have partly or wholly fulfilled the conditions for obtaining the title of the degree before the change is authorized, are nevertheless to be eligible for the diploma.

Such, briefly, are the conclusions of the Syndicate. The report is signed by nine members, with a dissentient minority. As it will be necessary to proceed by statute eventually, but previously to obtain the opinion of the Senate, it is proposed to put resolutions before Congregation, and to introduce a statute founded upon such resolutions as may be passed.

The discussion on the report, as might have been expected, was of a very unusual character. For this occasion only the debate was conducted in the Senate House, instead of the Arts School, and the speakers seemed inspired by their novel surroundings to rise to unusual heights of eloquence. The case for the Syndicate was put forward in a masterly speech by Professor Maitland, whose eloquence and humour for the moment carried away even some of his opponents. Professor Forsyth made his *début* as a debater with flowing rhetoric and finished periods, almost as effective as the incisive epigrams of Dr. Maitland. Speeches were delivered by everybody who was anybody, and by others. Next term the controversy will enter on the leaflet stage, and the printers will be busy. Probably before the end of the term the Senate will be asked to decide the momentous question by their vote, which for the sake of academic peace it is hoped will be decided in one way or another.

A new feature has been introduced into the practical examination in Physics and Chemistry in the Natural Science Tripos: candidates are to be allowed to send in notebooks showing the record of practical work done by them, such records to be countersigned by their teachers as proof of *bona fides*.

The Day Training College report is now before the Senate. It seems that there were in June, 1896, 21 students. Of the five third-year students, four took honours, and one a first-class in a special examination. All these students obtained the certificate of the Education Department, and were placed in the First Division. Of the nine second-year students, one obtained a first-class in an Inter-collegiate examination, two a second-class, and one gained a first-class in Part I. of the Natural Science Tripos. The reports of H.M. Inspectors show that the system of training is sound and satisfactory.

The honorary degrees of this term have given rise to unusual excitement. On March 11, Mr. Thomas Francis Bayard, the Ambassador of the United States, and Baron Alphonse de Courcel, Ambassador of the French Republic, received the degree of Doctor of Laws; Professor Felix Klein, of Göttingen, was created Doctor of Science; and Professor Zahn (the eminent theologian, of Erlangen), Doctor of Letters. But the *pièce de résistance* was the welcome given to Dr. Nansen when he came to receive the degree of Doctor of Science. Such a scene of enthusiasm has certainly never been known in the Senate House for the past twenty years. The undergraduates for once were moved, and expressed their admiration for the man, as the University did for the scientist. At the theatre a somewhat similar display was given when the explorer delivered a lecture on his adventures. For the day Cambridge indulged in a little ecstasy of hero-worship, and felt none the worse for expressing its genuine and thorough appreciation of a real live man.

At Trinity, Dr. Ward is to be succeeded as tutor by Mr. Adam Sedgwick, and it is satisfactory to know that the appointment will not have the result of entirely withdrawing Mr. Sedgwick from the biological work in which he probably has no equal here, or possibly elsewhere. Sir William Browne's medals have been awarded thus:—Greek Ode: A. E. A. W. Smyth, Trinity; Latin Ode: N. C. Armitage, Trinity; Greek Epigram: A. W. Mair, Caius; Latin Epigram: N. C. Armitage, Trinity. The new Rede Lecturer is Mr. A. W. Rücker, Secretary of the Royal Society, and Professor of Physics in the Royal College of Science.

London. In March the impending vacancies in the list of examinerships are advertised, with the view of filling them up for the year commencing on July 1. This year the vacancies are numerous. The following examiners retire under the five-year rule:—Professor Herford (English); Dr. Breul (German); Dr. Leathes (Scripture); Dr. Keynes (Political Economy); Professor McLeod (Chemistry); Professor Ray Lankester (Zoology); Mr. Hopkinson (Equity, &c.); Dr. Blake Odgers (Common Law); Dr. Walker (Constitutional History); Dr. Cavafy (Medicine); and Dr. Luff (Forensic Medicine). Beside these normal retirements there are some special cases. Thus, Dr. Watson (Mathematics) retired through ill health in June last, and Dr. Larmor (a former examiner) was requested to take his place for the current examiners' year only. And, in the case of Geology, Professor A. H. Green, of Oxford, died last August, and Professor Lapworth (also a former examiner) was similarly requested to take his place for the rest of the year. In the case of Experimental Physics, it appears that both the examiners (Professor Poynting and Professor J. J. Thomson) are resigning before completing their full term of service. And, in State Medicine, one examiner (Dr. Whitelegge) retires, through his appointment to an important post under the Home Office.

In the volume of minutes of the Senate for 1896, which may be consulted by those who know how to get at it, we discover a few details of some little interest in the educational world. In June the Rev. H. E. Cruso resigned his seat as representative of the University on the Governing Body of Ipswich Endowed School, and in July Dr. Herbert Brown, of Ipswich, was appointed to succeed him. Earlier in the year, Sir Joshua Fitch and Sir Richard Quain were re-appointed Governors of St. Paul's School. And, at the end of the year, by the death of Dr. Holden, the appointments of Almoner of Christ's Hospital, Governor of St. Olave's School, Southwark, and Governor of St. Paul's School fell vacant. We learn that these vacancies have since been respectively filled up by the appointment of Professor Tilden, Professor Weldon, and Mr. Arthur Milman.

The examinations of schools were not very numerous—not a dozen; but the list of schools includes some very important ones of middle-class rank, such as Bancroft's School, Woodford, Bedford Modern School, and Alleyn's School, Dulwich.

An account of the University's participation in the Kelvin Jubilee was given in our number for August last. It appears from the Minutes that, as far back as March, 1896, an invitation was received from Princeton, U.S., inviting the Senate to send a representative to the "Sesqui-centennial Celebration" of the College there, to be held in October, and its Inauguration as a University. The Vice-Chancellor was empowered to appoint a representative, and appointed Professor J. J. Thomson, one of the examiners, who presented, on behalf of the Senate, a

congratulatory address in Latin, drawn up by Professor A. S. Wilkins, another examiner. We quote the superscription, as showing a notable instance of ingenuity in meeting a difficulty: "Viris illustrissimis Præsidi Curatoribus Professoribus Collegii *Neocaesariensis* . . ." (Who will henceforward call himself a Princetonian when he can be a seven-syllabled "Neocaesariensis" without further charge?)

Another change in the staff of the University occurs on March 31, by the retirement of Mr. T. Le Marchant Douse, B.A., the clerk to the Senate and head of the office, after thirty-five years of arduous service. He will be succeeded by Mr. Alfred Milnes, M.A., hitherto assistant clerk to the Senate. On the evening of March 23, the Vice-Chancellor (Sir Henry Roscoe) entertained Mr. Douse to dinner at his town house, and the company included most of those members of the Senate to whom Mr. Douse has been longest and best known. We may add that Mr. Douse is not unknown outside the University, at any rate to linguistic students, and his work on the Gothic dialect is generally recognised as the chief English authority on its subject.

Wales. The next meeting of the Court of the University of Wales will be held at Shrewsbury on April 23 and 24. The main business of the meeting will be to decide the site of the University offices. In view of the fact that the University of Wales is a federal University, consisting of the three Colleges of Aberystwyth, Bangor, and Cardiff, there is a strong probability that the University office will be located in some central town which is conveniently situated for all three Colleges. A meeting of the Court of Governors of the University College of Wales, Aberystwyth, was held at Llanelly on March 26. The Executive Committee of the Central Welsh Board for Intermediate Education met on Friday, March 19, at Shrewsbury, under the chairmanship of Mr. Humphreys Owen, M.P. The Committee were mainly occupied with making arrangements for the examination by the Central Board of the Welsh Intermediate Schools in July next.

At a meeting of the Aberystwyth Branch of the Teachers' Guild, held on March 13, Professor Anwyl in the chair, an excellent paper on "Science Teaching in Elementary Schools" was read by Miss O'Brien, D.Sc. (Lond.), a former student of Aberystwyth. Dr. Lentzner, of Oxford, who has for some time been on a visit to Aberystwyth, has been delivering at the University College a series of lectures on "Scandinavian Literature," which were much appreciated by his hearers.

APPOINTMENTS, &c.

Professor Yule Mackay has been elected Principal of University College, Dundee.—Sir Rowland Blennerhassett, Inspector of Industrial Schools in Ireland, has been appointed President of the Queen's College, Cork.

The Savilian Professorship of Geometry in the University of Oxford is vacant by the death of Mr. J. J. Sylvester. The Moral Philosophy chair still remains vacant. Mr. Sollas has been appointed Professor of Geology.—At Cambridge the Vice-Chancellor has appointed Mr. A. W. Rücker, Secretary of the Royal Society, and Professor of Physics in the Royal College of Science, to the office of Sir Robert Rede's Lecturer.—The Council of the Cambridge Training College have made the following appointments:—Senior Lecturer—Miss Steedman, late Headmistress of the Welshpool Intermediate School; Junior Lecturer—Miss Hubback, late of Holloway College.

Mr. F. Sherville, M.A., has been appointed Headmaster of Wantage Grammar School, vacating the headmastership of Bishop Auckland.—Mr. F. Griffin, M.A., of Dulwich, succeeds Mr. Sloman as Headmaster of Birkenhead School.—Mr. H. Bompas Smith, M.A., succeeds Mr. Aldis as Headmaster of Walsall Grammar School.—Miss Trayes, B.A. Lond., has been appointed to Holywell School for Girls; Miss M. J. Robinson to Welshpool; and Miss Walmsley to Loughborough, leaving a vacancy at Keighley Grammar School for Girls.

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The Right Hon. James Bryce, M.P., D.C.L., presides on March 31 at the Distribution of Diplomas, Prizes and Certificates gained at the Christmas Examinations of the College of Preceptors.

The Oxford syllabus of the examination for the Teachers' Diploma is now published, and a lecturer has been appointed, in the person of Mr. M. W. Keatinge, M.A., of Exeter College. Mr. Keatinge is the editor of Comenius' "Great Didactic," and is announced to lecture at the Summer Extension Meeting in August.

The Secretary of the Cambridge Training Syndicate announces two important lectures to be delivered next term on the "Practice of Education." The Headmaster of Harrow (Rev. J. E. C. Welldon, Senior Classic, 1877) will lecture in the Literary School, on Saturday, May 15, on "Sympathy as a Power in Education"; and on the following Saturday Mr. F. W. Sanderson, M.A., Headmaster of Oundle School, will lecture on "The Teaching of Physical Science in Schools."

In May, the Joint Scholarships Board Examination for minor scholarships will be held. The minor scholarships number 538, and include Junior County Scholarships and 100 Scholarships of the Drapers' Company. A list of these awards will be found in the official gazette of the Technical Education Board. The Board have just awarded 225 scholarships in domestic economy, to girls above the age of thirteen years, who had been nominated by the headmistresses of elementary schools, or by the heads of the various schools of domestic economy, for a second course. This award is the largest that has yet been made by the Board.

The task of organizing the Modern Language Holiday Courses, hitherto carried on by the committee formed at Jena by Mr. J. J. Findlay in 1893, has now been handed over to a committee of the Teachers' Guild appointed for that purpose, and including representatives from other bodies. This committee consists at present of the following:—The Chairman of the Guild Council (the Rev. the Hon. Canon E. Lyttelton), the Vice-Chairman (Mr. C. E. Frank), Mr. F. Storr, B.A., Mr. J. W. Longsdon, M.A., representing the Guild; Mr. J. J. Findlay, M.A., Ph.D., Miss A. J. Cooper, Mr. H. J. Watson, M.A., Mr. R. L. Lancelot, representing the former committee; Mr. W. G. Lipscomb, M.A., representing the Modern Language Association; Mr. F. W. Crook, Mr. G. J. Hill, representing the Association of Organizing Secretaries of County Councils; Mr. F. S. Marvin, M.A., H.M.I.; Mr. E. J. Vie, B.A., Headmaster, Stockton-on-Tees High School; Mr. J. Graham, Inspector, West Riding of Yorkshire C.C.; J. W. Longsdon, M.A., H. B. Garrod, M.A., Secretaries.

The Eighth Summer Meeting of University Extension Students will be held this year at Oxford. The meeting, as in previous years, is to be divided into two parts, the first part lasting from Saturday evening, July 31, to Wednesday, August 11; the second from Wednesday, August 11, to Wednesday, August 25. The Vice-Chancellor (the Provost of Queen's) will welcome the students in the New Examination Schools at 8.30 p.m. on Saturday, July 31, and on the same evening the Bishop of Ripon will lecture on "The Romantic Revival in English Literature." The main courses of study will be concerned with History, Literature, Education, English Language, Greek, and Architecture.

During the meeting two conferences will be held: (1) On the relations between Co-operation and University Extension; (2) on the Training of Pupil Teachers. Special sermons will be preached at St. Mary's by the Bishop of Ripon and the Rev. W. Hudson Shaw, and theological lectures will be given by Canon Scott Holland, the Rev. C. Hargrove, and the Rev. W. E. Addis. The course of History, Literature, Art, and Economics of the Revolutionary Epoch, 1789-1848, is in continuation of those given at the Summer Meetings of 1891, 1892, 1894, and 1895. Arrangements have been made for lectures in this course by the Bishop of Ripon, the Master of Balliol, Mr. Augustine Birrell, Q.C., M.P., Canon Gore, Mr. Arthur Sidgwick, Professor R. G.

Moulton, Mr. F. S. Boas, the Rev. P. H. Wicksteed, Mr. Justin McCarthy, M.P., Mr. M. E. Sadler, the Rev. W. Hudson Shaw, Mr. A. Hassall, Mr. H. Belloc, Mr. Graham Wallas, the Rev. W. H. Hutton, Miss Rose Kingsley, Mr. W. A. S. Hewins, and others.

The Technical Education Board of the London County Council has established a Sanitary Science Scholarship, to encourage the study of the preventable social and industrial causes of insanity. The scholarship, which is of the value of £150 a year, is tenable in the pathological laboratory of Claybury Asylum. It will be awarded in the first instance for one year, but it may be renewed for a second, and possibly a third year, upon a satisfactory report being received from the superintendent of the laboratory, under whose direction the scholar will be required to work. Candidates must be ordinarily resident within the administrative County of London. In making the selection, preference will be given to a candidate who is a qualified and resident practitioner and has completed his academic course.

FROEBELIAN PHILOSOPHY.

By Vernon Gibberd.

One of the pressing needs of the present day is the restatement of old ideas in accordance with the exigencies of modern requirements. In the desire for something new, men forget the value inherent in the old, and ignore that which, *mutatis mutandis*, may contain a possible solution of problems pressing for settlement. The resources of many old theories are not yet exhausted, though they may be forgotten, and it is possible that in this respect the past may have its answer to the need of the present. It is some seventy years since Froebel published his "Education of Man," and though one of the most recent expounders of his system witnesses to the growing recognition of its principles, they have hardly yet been adequately applied or pushed to the lengths of their possible development. Mr. Courthope Bowen ventures the prediction that some day they may change the character of a great part of our education. As it is, many of the various improvements in scholastic discipline and curriculum are practically extensions of his ideas. The conception of art as a factor in education, the growing insistence on the necessity of physical knowledge and bodily cultivation, some of the modern methods of teaching languages, the inclusion of technical education in the scholastic repertory, and other things that might be mentioned, are developments of theories enunciated by Froebel. It is true he dealt primarily with the early years of the educational life, but, at the same time, certain of the underlying principles of his teaching are applicable to education as such, without limitation as to time, age, or class. A re-statement of these, therefore, may not be inapt or inappropriate. In his "Education of Man" there is much philosophical speculation and some metaphysics, but his conviction of the unity of nature, which dominates both one and the other, combined with the failure of contemporary educational methods, undoubtedly gave birth to his great principle of the absolute necessity of unity in education. Education, according to Froebel, should be a harmonious development, from its earliest bud to its latest blossom, each stage preparing for its subsequent one, and growing gradually into it. "It should," he says, "be the business of every form of instruction in its respective stage to arouse in the pupil a keen and definite feeling of the need of the next stage." In effect, he applies the great law of evolution to education, and it is no small testimony to the insight of Froebel that he should have anticipated to some extent this great principle, and have perceived its application to education, both as a method and as a process.

The essential value and importance of early training were facts borne in upon him by the discovery that the schools of his day accomplished so little. Either the pupils came to school altogether unprepared, or with faculties quite neglected or misdirected from want of proper nurture; and failure, partial or complete, was the necessary result. "There were," he held, "in the child, germs which, if they were to thrive, must be developed early," and hence the great importance attached to family life in Froebel's system. The study of the psychology of childhood, which is beginning to receive serious attention, will witness to the supreme importance of the very earliest years of childhood, as a period when tendencies may be developed or destroyed, and impressions received which colour the whole subsequent life. Mr. Bowen has stated that his attention was first directed to the investigation of the Froebelian philosophy by the exceptional intelligence displayed by a section of his pupils who, prior to coming under his care, had been trained under its principles.

But the great corner-stone of his teaching is the law of education by self-activity; it was, in fact, the inspiration of his genius and the ruling idea of his system. "No truth is really our own," said Emerson, "until we have discovered it for ourselves," and to train the child to acquire knowledge by his own activity was the aim which Froebel pursued with so much patience, and which his disciples have practised with such marked success. "To have found one-fourth of the answer to a question," he says, "by his own effort is of more value and importance to a child than it is to half hear and half understand in the words of another." To Pestalozzi's assertion that the faculties were developed by exercise, Froebel added that the function of education was to develop the faculties by arousing voluntary activity. Hence he insists that the purpose of teaching and instruction is to bring ever more out of man rather than put more and more into him, and it was this as his conception of the method of nature that convinced him in his study of childhood of the practical educational value of work and play, both of which were used by him as a means of invoking activity in the mind of the child and leading it into right directions.

He found that one of the greatest faults of school arrangements as then organized was that too often, as not infrequently now, the pupils were wholly debarred from outwardly productive labour. And yet, as Rousseau has said: "A child may forget what he sees and more still what is said to him, but he never forgets what he had made"; or, as Froebel himself contended: "Lessons through and by work, through and from life, are by far the most impressive and intelligible." A faculty for production is instinctive in children, and there is a danger that, unless this capacity is utilized and wisely directed, it may run to waste or suffer perversion; and it was because his experience taught him that to learn a thing in life, and through doing, was more developing and cultivating and strengthening than to learn it merely through the verbal communication of ideas, that he invented a series of "occupations," as at once a satisfaction of native instinct and a means of healthy activity and self-acquisition. Similarly, it was his sympathetic study of childhood that suggested, with surely the inspiration of genius, the educational value of play. Other philosophers, from Plato downwards, had referred to the indicative character of play, but the genius of Froebel consists in his discovery of its potency as an educational factor of the highest interest and importance, and his organization of it in such a way as to use it not only as a means of acquiring knowledge, but of contributing to one of the great purposes of education, the provocation of activity, and so leading by natural processes to the performance of work with the same freedom and spontaneity as play. "The plays of childhood," he says, "are the germinal leaves of all later life." It is easy to imagine possible developments of the use of work and play beyond the limits of ordinary elementary education.

But Froebel insisted also on the necessity of concerted action. He believed in developing early the social impulse, gathering children together in groups, and so encouraging the growth of those virtues which would not be otherwise developed. He combined the theory of Pestalozzi, that the child belonged to the family, with that of Fichte, that the State and society were its real owners, and asserted that he belonged to all three. "The social impulse, the love of others beyond the narrow range of self and of one's own home, cannot be properly excited and developed except when numbers of children from different homes are gathered together." The value and sanity of this conclusion are evident from the success which has attended the kindergarten system, not only in this country, but especially in America.

No review of Froebelian principles would be complete without a reference to his position that religion is the culmination of education. He holds not only that religion is an essential element in all education, but also that from the earliest period the religious sense should be carefully and sedulously cultivated. Religious teaching need not be doctrinal, it should not be dogmatic, but it should certainly be definite and practical. Here also he would have the religious sense evolved as a natural growth, not dependent on outward incentives or artificial sanctions for its cultivation, but rather, and mainly, through the agency of love, and by the child's realization of the reflex action of his own conduct. "All education not founded on religion," he says, "is unproductive." For to moral training belongs the direction of conduct, and conduct, as Matthew Arnold has reminded us, is occupied with the larger part of human life.

It should need no demonstration to show that modern educational methods and ideas have much to learn from the principles on which Froebel based his educational philosophy. To enunciate them is to establish their relevancy and the obviousness of their utility. To ignore them would be futile, for they are founded on a strictly logical basis, and follow moreover the method of nature. For these reasons alone, "his conception of education cannot but affect the thoughts and, ultimately, the practice of all teachers who will be at pains to understand it."

CORRESPONDENCE.

SECONDARY TRAINING.

To the Editor of the Educational Times.

Sir,—As an element in the organization of secondary education, the problem relating to the training of teachers seems scarcely to have received the attention it merits. This fact is rendered the more

noticeable when one considers the state of things existing in respect of elementary schools.

Doubtless, the original training colleges in connexion with these were founded by voluntary associations; but, of late years, they have been largely subsidized by Government, and their number has been increased of late by the institution of day training colleges in certain School Board districts, where they are, in part, supported out of the rates. All these have relation to one class of teachers only, viz., those intended for work in elementary schools. The improvement and development of this work have resulted in additional demands being made upon the training colleges, and in the desire of many elementary teachers to obtain degrees in the University of London. Further—what is worthy of special attention—an Association has recently been formed to raise a fund available for sending eligible pupil-teachers to Oxford or Cambridge, that they might thereby have the advantage of a full residential course.

One is led to contrast with this the position of affairs in respect of intending teachers in secondary schools. In one case the State does everything, or almost everything; in the other case, nothing. From the present relations of so-called elementary to secondary education, and from what we may conceive as about to happen in the immediate future, if the present forces from below continue to operate, the gravity of the position becomes more apparent.

The field of secondary education is not uniform. There is great inequality, and the different elements require separate treatment. The great public schools, *e.g.*, will always be able to draw a sufficiency of men from our Universities, who have educated themselves either unaided or with the help of scholarships. Such men will find it possible to work their way to a degree, and where there is—rightly or wrongly—so much indifference shown by headmasters to training other than muscular, the lack of pædagogic knowledge will not be much felt. But we may anticipate a time when, under the pressure of a Registration Act, training will become *sine qua non* for the vast majority of teachers. When that time arrives the Universities will be required to take it up in earnest; and difficulties will arise at once as to the provision of Chairs of Education, demonstration schools, &c. Furthermore, the cost in time and money involved in remaining at the University for a post-graduate course will press heavily on expectant secondary teachers.

It may be contended that the public grants to elementary teachers are balanced by the endowments appertaining to secondary schools and the Universities; but these endowments can be utilized only in respect of general culture, leaving nothing available for specific training in the science and art of education. But, with reference to a certain number of grammar schools and a larger proportion of private schools, intending teachers are mostly poor and dependent upon their own exertions; so that, although they may afford, with extraneous help, to work for a London degree, yet they will find it impossible to spend an additional two years in an educational centre, while they go through a regular pædagogic course. Does not this condition of things constitute a real and growing danger to secondary education?

I am not making invidious comparisons between the two kinds of education or classes of educators, nor am I contending that a sixpence less should be spent on the education of elementary teachers. The following facts, however, should be borne in mind: the importance to the State of a sound education for the middle class; this class, in respect of the sacrifices for education made by its members, deserves well of the country: it educates not its own children alone, but, very largely, those of the artizan class in addition.

If, then, it be a matter of prime necessity that the children of the labouring class be well educated, it is equally a matter of necessity that the children of the next rank in the social scale, our foremen, overseers, trades-folk, merchants, manufacturers, and professional men, be likewise well instructed. This has been heretofore left entirely to voluntary agencies, and it now becomes a serious question whether the State holds the balance even as between the two classes.

What can be done to redress this balance? Naturally, in the first place, existing agencies can be helped. Amongst these agencies, the College of Preceptors bears an honourable record. As a writer in the March number of the *Educational Review* reminds us: "Training of teachers was in the forefront of its earliest scheme, and Professor Payne was the well-known and first occupant of its Chair of Education." Lectures on pædagogy have been consecutively given during a long series of years. Diplomas—which would be all the better, in the lower stage, for a little "screwing up"—have been granted to hundreds of recipients. A Training College within its walls is now in existence, with an energetic Principal. The classes in connexion therewith have recently been thrown open to women. Here is all that is wanted for active work amongst a large class; but the difficulties are great—chiefly by reason of the poverty of students—and some further step is necessary to render all this provision effectual. A new departure may be looked for when a teaching University for London, with affiliated colleges, is constituted, and when we have the long-expected Education and Registration Acts on the Statute Book; but is it even now premature boldly to approach the Legislature—in conjunction, if you will, with the authorities of existing secondary training colleges—for a grant, which would enable proper demonstration schools, with suitable apparatus, to be established, and which would provide substantial help for those student-teachers who would thus find it possible to set aside a sufficiently long period for professional study?

In the meantime, we cannot do better than bring into prominence that part of the Report of the Royal Commissioners dealing with training, and impress its truths alike upon the public, the profession, and Parliament. Voluntary effort has done something, especially for women teachers; the Universities are waking up, but all that is done is but a beginning; and, with the best intentions, these bodies can effect but little without substantial help from the outside. Under existing circumstances, especially in the face of public calls now being made, it is of little use to look for large benefactions from private individuals. Why should we not turn our eyes to the country at large, *i.e.*, to Parliament? Parliament has been entrusted with the distribution of vast sums of money of late for educational purposes; but, whilst some has been devoted to the provision of so-called technical instruction, some to the ampler provision of elementary education, secondary schools and colleges have been largely neglected. We have now certainly a right to ask that the State shall foster what has been originated by voluntary endeavour.

It may be allowed to appeal especially to private teachers. It is a matter for regret that so many of their number treat the Report of the Royal Commission so slightingly. If the Report be suffered to fall to the ground, the part relating to the training of teachers goes with it. But this question affects private teachers more than it does those in endowed or high schools, inasmuch as a large proportion of their number has not been in a position to obtain degrees or diplomas. It is therefore both a matter of surprise and alarm that the members of the Private Schools' Association have been so short-sighted, and have not recognized their existing and patent weaknesses.

One word in conclusion. Some persons may look for a solution of all our difficulties in this respect, by suggesting that teachers in all classes of schools should be trained together. There would be no objection to this being done under certain conditions, but there is little doubt that these conditions will be rendered more favourable if those interested in secondary education do what the case now demands to secure for secondary teachers that measure of recognition and help which is their right. Then, in due course, would come a united profession, abolition of invidious distinctions, harmonious co-operation, and, finally, complete interchange of duty and of work.—Yours faithfully,

J. O. Bevan.

THE TESTIMONIAL SYSTEM.

To the Editor of the Educational Times.

Sir,—What I have ventured to call the Testimonial System—*i.e.*, the system of awarding almost all posts in the teaching profession upon the consideration of printed testimonials—is, I fear, almost as widespread and unassailable as the system of examinations, and its evils are no less patent and hardly less great. Let me illustrate. The danger of forgery is obvious, so obvious indeed as to make at least one private inquiry in support of testimonials imperative, before the selection of a candidate for any position of importance. But there is another danger besetting the electors to a post, which is all the greater because less easily detected. It is this: the professorships, lectureships, and examinerships often fall to a candidate on account of the skill, elegance, persistency, and force of hard swearing on the part of his backer or backers. Suppose, for example, three learned professors of the same subject at Cambridge, Oxford, and Dublin have three distinguished and therefore favourite pupils, to whom (especially as they probably know very little about them) they attribute the majority of the virtues, misled by the amiable gullibility begotten of the interesting relation of teacher and pupil. A lectureship falls vacant. Each of the three learned professors testifies to the perfect fitness for the post of his own particular distinguished and favourite pupil. Not one of them knows anything of the other candidates, so that, even if they would, they are not in a position to guide the electors as to their respective merits. It therefore resolves itself into a contest in hard swearing. What are the electors to do? Naturally they allot the post to the man most convincingly backed.

But there is another side to the question, and that is the candidate's pocket. For every headmastership vacant in the United Kingdom there can hardly be less than an average of a hundred applicants. Many of these men make several unsuccessful applications, and perhaps never make a successful one. Think what this means, both for the candidates and for their testifiers. Testimonials must be "recent"; they are out of date in six months. The testimonial-writer has to be applied to again and again, until the candidate desists from very shame. In some cases the number of testimonials is mercifully limited to three, but this is often more than compensated for by *printed copies of the application* being required. In the case of an external examinership in the University of Glasgow, the value of which is £30 a year for three years, I am personally acquainted with a candidate who had to spend thirty shillings in printing testimonials

and application. If there were twenty candidates, and each of them spent as much as this one, as much as one whole year's stipend must have gone into the printer's pockets.

The alternative of giving references is more satisfactory from every point of view, and is generally adopted in the case of appointments of the very highest moment. Who ever saw a testimonial that gave both sides of a candidate's character and qualifications? Yet, is the suppressed side less relevant or important than that laid stress on? The opinion of a referee is confidential, and therefore there is no reason *a priori* why it should not be impartial, honest, and discriminating. One of the best scholastic agencies in the kingdom insists on a private reference to a person in whom it has confidence, in addition to testimonials. A slight additional expense would be thrown on the governors or advertising body, but they are far better able to bear it than the candidates.

If there are weak points in my case, perhaps your readers will expose them. If not, I submit that there is great and urgent need for a change of the usual procedure.—Yours sincerely,

M.A. CANTAB.

SOME NOTES AND QUERIES.

To the Editor of the Educational Times.

SIR,—As one who attended Mr. Bond's lecture on architecture, may I thank him and the College for the treat provided for us? I fully agree with his closing words: "It is not good, I think, to be always teaching, or thinking of teaching, or talking about teaching." Now here, I believe, is another way in which the College could be made useful and attractive to many of us, who do not much care about the ordinary lecture. Could not some gentleman undertake to give series of lectures, say on architecture (and so in other subjects) from a school point of view. I am a history man—a devotee of history—and it was just the subject that I, for one, was wanting information on. Could Mr. Bond be induced to give us another lecture or two on Norman, Mediæval, Elizabethan, Jacobean, &c. Let us pay a fee, rather than lose the opportunity. Further, could there not be arranged, as the chairman suggested, a series of excursions, under some competent person, for the study of ancient buildings, &c.? At least, could we not have a few papers in the *Educational Times* on this and kindred subjects?

In a late review in the *Educational Times* the reviewer classed among other absurdities the fact that Prince Arthur was seriously recorded as an historic character. Now there are just as many proofs that he did exist as that he did not. That the deeds recorded of him are more or less fabled, probably no one doubts; but the probability is that there was such a man. We have had rather too much slap-dash of this sort—no Joan of Arc; no Nelson's signal; likewise no God.

In conclusion, could there not be a department for Queries and Answers in the *Educational Times*? This would prove useful to many. Time is too short for elaborate research. Many minds take many points of view, and co-operation of mind would then be brought into play.—Thanking you in anticipation,

ENQUIRER.

[Every man is entitled to one hearing. But time and space are too short for us also, and we have been obliged to excise one or two historical questions submitted by "Enquirer." *Notes and Queries* is an excellent little paper, which would more than satisfy our correspondent's need. We sympathize with his reluctance to expel any picturesque anecdote which has once taken a hold on the imagination; but historical truth is a necessity which has no sentimental laws.—EDITOR.]

FRENCH CORRESPONDENCE.

To the Editor of the Educational Times.

DEAR SIR,—Whilst thanking you for your notice of the French correspondence scheme, and agreeing with you that its heading might have been more suitably expressed, may I point out that the French title "Correspondance Interscolaire" is not open to that objection? I am able to report progress both as regards numbers of correspondents and practicability. Many headmasters of secondary schools have given their support; already about seven hundred and fifty French and English boys and girls have been put in correspondence, and their number is continually augmenting. Masters are kindly sending suggestions, which are gladly welcomed, and adopted when they do not interfere with the simplicity of the scheme. Letters of approval have been received also from French masters in English schools, who have practised the method and can testify that its success is not always ephemeral.

May I beg you of your courtesy to give me a little more of your valuable space? I ask it in the interest of many teachers who, like myself, have vainly sought help in starting such a correspondence between my pupils and those of other nationalities.

Cambridge House, South Wimbledon. E. A. LAWRENCE, A.C.P.
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COLLEGE OF PRECEPTORS.

EVENING MEETING, MARCH 17, 1897.

The Chair having been taken by the Rev. J. O. Bevan, M.A., F.C.P., G. HEPPEL, M.A., read a paper on

GEOMETRY IN SCHOOLS.

THE subject of the present paper, although dealing with one of the most important parts of school teaching, has not been brought forward at the evening meetings of the College for seventeen years. This may appear somewhat strange, but it admits of easy explanation. In 1871 the dissatisfaction that had for a long time been felt by mathematical teachers with the system of rigid adherence to Simson's Euclid led to the formation of the Association for the Improvement of Geometrical Teaching. This Association has been at work from that date to the present time, and has succeeded in obtaining very important reforms, though not all that were sought. In 1877 two papers were read at this College—by Sir Philip Magnus in February, and by Dr. Wormell in October. These expressed cordial sympathy with the work of the Association, and are of great value as works of reference to any one who wishes to study the history of geometrical teaching. They show very clearly what were the defects of the old system; they indicate what changes were desirable, and we can now see how far these changes have been effected, and what hopes remain still unfulfilled. In 1880 Mr. Walmsley read a paper chiefly devoted to describing the course that should be adopted by a teacher still subject to the old rigid limitations. That he did not himself approve of these is evidenced by the fact that he joined the Association in 1881, and has remained a member ever since. When the Association, including, as it did, masters from nearly all the great public schools and many distinguished professors and tutors at Oxford and Cambridge, had got into full working order, a member of this College might think that it was hardly the right time to bring forward a subject that was then being discussed in all its bearings by experts holding divergent views. He would feel that any suggestions and recommendations he might make were being expressed, perhaps more forcibly and with more authority, by some one of the contending parties.

All this is now changed. Instead of contest there is compromise. The original reformers of 1871 generally feel that, although they have not got all they wanted, they have got very much, and that as to the rest they cannot reasonably expect the same united support from geometrical teachers. For my own part, I am one of the advanced section, and with the views which Sir Philip Magnus and Dr. Wormell expressed in the papers of 1877 I heartily agree. Still, I cannot honestly say that the compromise now arrived at leaves any very substantial obstacle in the way of teachers of geometry in schools. The chief practical obstacle is that comparatively few know their own freedom, and perhaps fewer know how best to make use of it. My object this evening is to make some suggestions as to these points, derived from experience.

In 1889, eighteen years after the formation of the Association, twelve years after the two papers that have been mentioned, the Universities of Oxford and Cambridge granted the concession that in their examinations proofs other than Euclid's might be employed, always providing that his sequence was observed, so that no later proposition should be used in proof of an earlier one. As a consequence of this concession there were published a number of improved and revised editions of Euclid, of which those by Nixon, Deighton, Langley, and Hall and Stevens may be mentioned as examples. These, departing more or less from the old restrictions, are so various in their character as to afford

considerable liberty of choice to teachers who may hold different views as to methods and expression; but all are safe manuals for preparation for University examinations. The writers were able to carry on freely to a much farther point the few improvements cautiously introduced by Hamblin Smith, described by Sir Philip as a "Concessionist," in the old days when any alteration was dangerous. The manual of geometry issued by the Association received no University sanction, as Euclid's sequence was not maintained. This they did not look upon as a disappointment. They were contending for freedom, and did not desire to replace Euclid by any other system enforced with the same unbending authority. They were induced to issue the manual, that included proofs, only because they had reason to believe it would render their efforts for freedom more successful.

The sequence restriction still continues. I am sorry that it does. I agree with Sir Philip Magnus, who said that "the work of examining five hundred candidates who had used different text-books would occupy much time, but there would be not the slightest difficulty even in arranging them in order of merit." Those who would like to see the arguments against change of sequence, combined with disapproval of any but trifling changes of method, should read "Euclid and his Modern Rivals," by Charles L. Dodgson, M.A. of Oxford. It breathes the spirit of an advocate rather than that of a judge, but expresses its opinion with all the bright wit and humour that might be expected from the author of "Alice in Wonderland." I am sure that none of the Association reformers had anything like angry feeling against the writer who had used so polished a weapon against them.

Sequence and Logic.

Somehow the question of sequence got mixed up with the question of logic. There was a prevalent idea that boys learnt Euclid at school not so much to gain a knowledge of geometry as to acquire a habit of logical thought; and that any interference with Euclid's course of reasoning would frustrate the main objects of their studies. Against this, Sir Philip Magnus protested, when he said: "Euclid has no monopoly of logic; Legendre, Wilson, and Henrici are equally logical." Moreover, there have been, during the more than two thousand years that have elapsed since Euclid lived, several more or less logical subjects superinduced with which he had nothing whatever to do. Thus, we often hear it discussed whether his twelfth axiom is really axiomatic. Now, the word "axiom," with the meaning now attached to it, did not come into existence till centuries after Euclid's time. What we call "axioms" he called "common notions," and he might surely be allowed such of these as he pleased to be the foundations of his reasoning. Nor is Euclid altogether so flawless as he is often supposed to be. Professor De Morgan, one of his strongest admirers, says in the "English Encyclopædia": "In fact the 'Elements' abound in defects, which, if we may so speak, are clearly seen by the light of their excellences." To take an instance, the fourth proposition of the first book is proved by superposition. It is a theorem that in all systems of geometry is, so far as I know, always proved in the same way, and perhaps can be proved in no other. Euclid, bound to superposition in this case, evidently did not much like it, for he uses it only twice more. The axiom about superposition leaves it doubtful whether it is meant that turning round, or reversal of plane, is allowed. The fourth proposition makes use of superposition without turning round. Yet, in the fifth, with no warning, the turning round is required, although, if we supposed it allowed at first, the proof might have been furnished in one step. As in the eyes of the orthodox it is a kind of mathematical blasphemy to say a word against the time-honoured "Asses' Bridge," I will shelter myself behind the words of a high authority, the Rev. H. W. Watson, author of the "Geometry" in Longmans' "Text-Books of Science." He says:—

> To avoid the superposition upon itself with plane reversed, Euclid has recourse to the artificial and almost disingenuous device of turning one triangle into two by producing the sides, and then applying Proposition 4 to these two triangles, ignoring the fact that the results of Proposition 4 are being applied to a case for which the proposition has never been explicitly proved.

At present, with the continually increasing number of persons whose business has to do with applied science, there is little need to argue that geometry is extensively needed for its own sake. Still Euclid, in spite of every imperfection that can possibly be urged, is the grandest specimen of close sustained reasoning that we have; and we should try, if possible, to secure for schoolboys and schoolgirls the advantages both of geometrical knowledge and of logical training.

To do this effectually, I think we should separate the two. Teach the geometrical truths with the aid of all illustrations derived from ideas that the pupil must have put before him at a later stage. Many of these are of a very simple kind. Dr. Wormell says: "Although by an exercise of ingenuity we can avoid assuming that an angle has a bisector, and a line a middle point, until we can draw them, yet, as this plan forces a departure from what is natural, it will not be adopted by the practical teacher." Let the learner have his middle point, his angular bisector, and his line equal to another line. Let him think of a rectangle as containing a number of units of area equal to the product of the number of units of length in the sides. As a help to expressing the areas of parallelograms and triangles, let him be introduced to the ratios known as sine and cosine. Let him conceive an angle as produced by the revolution of a line. Tell him of the four possible kinds of superposition where two pairs of points are brought together, and how Clavius suggested these as a test of the straightness of a finite line. I even go so far as to say that it might be pointed out to him how, while size depends upon lines, shape depends upon angles, thus giving him some notions about similar figures. Let him have some idea of a limit, which he may, perhaps, have had brought before him in circulating decimals. Let him think of parallel lines as meeting at infinity, and of a tangent as passing through two coincident points. Above all, let no book of Euclid be entered upon without general introductory lessons on its scope and divisions, leaving problems out of sight to begin with.

As to logic, let there be more rather than less. The Association Syllabus was, I think, the first to bring into notice the four typical associated theorems—the original, "If A is B, C is D"; the contrapositive (Dodgson calls it the contranominal), "If C is not D, A is not B"; the converse, "If C is D, A is B"; the obverse, which is the contrapositive of the converse, "If A is not B, C is not D." Of these, if the original be true, the contrapositive is true, and the remaining pair are both true or both false. A boy would understand this if applied to some familiar example. Thus, the original being the proverb, "Little pitchers have long ears," the three others, in the order given above, would be, "Pitchers with short ears are not little," "Pitchers with long ears are little," "Big pitchers have short ears." There might in several cases be room for a further set of theorems, giving more particulars, corresponding to "Equal pitchers have equally long ears," "The greater the pitcher the shorter the ears," "The less the pitcher the longer the ears." This would lead to the rule of conversion. There is not time to do more than mention the rule of identity. Besides the groups of associated theorems, there are a few propositions, such as the 21st, which are manifestly easy deductions from former ones, and a few, like the 7th, that are used to lead up to the proofs of later ones. These might be included in the groups to which they naturally belong. Sometimes a group is incomplete, the contrapositive not being wanted, and the converse, if itself true, needing no contrapositive. Such a group is the 13th and 14th, and the learner might be shown what are the contrapositives that were not wanted. It seems to me that in this manner the thirty-four theorems of the first book might be classified into seven groups, each involving some leading truth capable of easy exposition. A learner with no notion of this or similar classification is very liable to lose sight of results, while his attention is kept fixed on steps of reasoning. We constantly hear authorities on education say that we should make quite sure that a pupil has really advanced one step before encouraging him to take another. I believe it is equally important to let him know what road he is travelling, and what he may expect to find on the way. The second book is merely a set of pictures of algebraical formulæ, together with two propositions which belong to the group containing 47 and 48 of the first book. The third book naturally falls into four divisions, each discussing a property of the circle. These properties are the equality of radii, the tangent being at right angles to the radius, the equality of angles in the same segments, and the equality of the rectangles of segments of secants. The fourth book is all problems.

Practical Geometry.

It is interesting to notice that amid all the conflict of opinion among the members of the Association, on parallels, algebraical illustrations, proportion, use of limits, and other thorny matters,

there was one educational recommendation on which there was entire unanimity—namely, that the study of Euclid should be preceded by exercises in practical geometry. These may be given at a very early age. A mistress at a large kindergarten, with a hundred and fifty children in attendance, told me a few days ago that the general age of the oldest pupils was about seven, and that these had usually been trained to bisect lines and angles, draw perpendiculars, construct some regular figures, and knew that the three angles of a triangle were equal to two right angles. A boy or girl thus prepared, when told beforehand what were the main truths demonstrated in a book of Euclid, and having had a common-sense view of the subject explained, would find little difficulty in taking the further step of arranging these truths in a logical order, and observing certain ordained rules. As these rules are sometimes purely artificial, it is necessary that they should be exactly laid down, with or without any explanation why they were originally held binding. As to expression, it is necessary that the requirements at particular examinations should be studied by the teacher. Thus, at some Nixon's Euclid would place the candidate at a disadvantage, as he leaves out the particular enunciations. I have known some examiners pursue what I call the merciless course of requiring numerical references to propositions used, and taking off marks if these are omitted or wrongly given. Consequently, the rules of the game, as they may be called, should be, as far as possible, ascertained before sending pupils in to any examination.

As this principle of separation between instruction in geometrical truth and training in logical expression is the main recommendation in this paper, and, probably, several objections may be raised against it, I will try to anticipate and answer some of them. It may, perhaps, be said that this plan is one of mixing up different branches of mathematics, in place of taking them in regular order. To that it may be replied that, so far as teaching, which ought to be natural, is concerned, and setting aside expression, which is more or less artificial, the plan is one that we have actually adopted, with results satisfactory to all, in cases where circumstances have been powerful enough to overcome prejudice against change. In the fourteenth century, if a boy were to acquire anything more of the scanty knowledge of arithmetic then accessible than would enable him to add up a tradesman's bill, he would first have to master six books of Euclid, and then, in the seventh book, learn greatest common measure. The forcible arguments of facts and common sense were enough to drive out of educational machinery the seventh, eighth, ninth, and tenth books of Euclid, and to replace them by arithmetical and algebraical methods. Later on, the fifth book, with its cumbrous machinery, was found to be too rough and difficult a road to get at the simple, and yet most important, truths concerning similar figures, so that the fifth book was practically ignored. The University of Cambridge, for a long time, kept up a formal show of retaining it, and made great objections to algebraical expression of proportion for geometrical purposes. The sole effect of these objections was to make a gap between the fourth and sixth books, and not to allow it to be filled up. Nixon says in his preface:—"The learner finds that, while an iron logic is insisted on in the first four books, so that the omission of no link in the chain of proof (how simple soever) is permitted, ever after, complex principles are assumed without a hint of the incongruity." This incongruity is removed when algebraical expression is allowed, as it is now. When I was a little boy I went through Simson's "Euclid," fifth book included, in the old orthodox style. At the end was an appendix on trigonometry, treated by strictly geometrical methods. This was, indeed, a hard nut to crack. I remember coming to the solution of a triangle when three sides are given, finding it illustrated by a figure like an enormous spider's web, having nearly all the letters of the alphabet. After some vain efforts to master its intricacies, I gave way to tears; but, at last, a small pecuniary bribe to exertion increased my energies, and the difficulty was overcome. Even then I had but conquered as far as the process was concerned; the main object aimed at and the utility of the result still remained buried under complexities. My relief afterwards was intense, when sine and cosine no longer appeared as lines but as ratios, and the big figure became merely a dream of the past. Inasmuch as the whole tendency of a student's mathematical course must be to show him that all branches are connected, and form parts of one great science of magnitude, it is hard to see why strict separation into independent departments should be insisted on at the outset, to be given up later on.

The separation undoubtedly has the effect of making a learner's first steps more difficult and more tedious, and it will seem unnatural to him when analysis has brought algebra and trigonometry together, when the symbols π and e are constantly appearing in connexions utterly removed from their own branches, when he finds that there are theorems in geometry which are most simply proved by methods derived from mechanics. An objection may also be made that this introduction of other branches increases the learner's difficulties. If it should have that effect, it should certainly not be employed. I have no sympathy with a remark I once heard from a very accomplished teacher: "I do not like making things too easy for boys." It is often imagined that to introduce trigonometrical conceptions is to apply trigonometrical analysis, that to talk of a line as having a units of length is to assume a knowledge of analytical geometry. All that is here proposed to be done is to use the elementary conceptions of one branch to make more clear the successive steps in another.

Deductions.

There remains one last and very important subject for consideration. No student can be said to have gained any real knowledge of geometry unless he can work deductions and exercises. It may be supposed that the University of Oxford do not regard such knowledge as important, at any rate in comparison with the logical side of the study of Euclid, for they have steadily refused to introduce deductions into some of their pass examinations. The Association have called attention to this omission, and made their protest in vain, for the papers still remain such that it would be merely necessary to give the printer the numbers of the selected propositions. This policy is, however, exceptional, and since, in general, deductions are thought to be an essential part of geometrical teaching, a few suggestions as to how facility in dealing with them may best be taught comes naturally into the scope of this paper.

In the editions of Euclid that have been mentioned, much attention is given to these exercises, and there is a very useful little book by Blaikie and Thomson devoted to them. Still, I cannot but doubt whether in any of these authorities sufficient regard has been paid to the intellectual position of the learner. The usual assumption is that skill in dealing with deductions comes from practice, and is to be attained only by those of special natural ability. Consequently, there is a frequent omission to give explicit instructions as to the general method of commencing, and to point out the pitfalls in the way of the student when left without direction. Some valuable explanations are no doubt given in the way of classification of methods, such as geometrical analysis, intersection of loci, and concurrence of separate conditions. As, however, it appears to me that sufficient stress is not laid on more preliminary considerations, I venture to make a few suggestions on points that are often thought too elementary and simple to need special statement. First of all, the pupil should draw as careful and true a figure as he can to represent the *data*. In doing this he is very liable to make a false start, which will ruin his chance of success. He is constantly likely unconsciously to introduce some special condition. The average boy, in representing by a figure "Let ABC be a triangle," has a natural tendency to draw one that is nearly equilateral. If he has to draw an angle ABC, he is apt to choose one about half a right angle, so that in his figure angles and their complements become confused with one another. I have known many cases where a rider beginning with "If two circles intersect in A and B" has been started by taking a halfpenny and passing a pencil round for each circle, the boy having perfect unconsciousness that he has introduced the new condition that the circles are equal. If a quadrilateral inscribed in a circle is given, the pupil must be warned not to make two sides parallel or equal, and to let no angle be a right angle, so that a diagonal would pass through the centre. I think I might almost appeal to skilled geometricians to say whether it has not sometimes happened even to them that, after careful efforts to make their figures as general as possible, accident has, with a kind of perversity, made lines concurrent that should not be so, angles to look like right angles without adequate reason, circles to touch that are bound in duty to intersect, and so a new figure has to be drawn. A boy ought to be encouraged to draw twenty figures, if need be, representing data, till he hits on one that seems unobjectionable. When this step is achieved, he should next be trained to use his eyes. If a theorem, he should be told to see whether what he wants to prove looks like being true; if a problem, that he should first try to solve it as well as he can by his eyes alone. In both cases, but especially in problems, he

should think what would happen in limiting cases. Let him imagine what would happen if the given triangle had one side infinitely short, what if the given circle became a point. Not infrequently this consideration by itself might indicate the solution. This short list of recommendations might be indefinitely extended, but I will refer to only one more. In setting questions it often happens that the examiner, always accustomed to arrange letters symmetrically, assumes the examinee will do the same, and when the latter fails to do so, confusion results. When a pupil of mine, having to take points D, E, F on the sides of a triangle ABC, takes D on the side AB, I become eloquent and try to show him that such a course of action may ruin his future prospects.

In conclusion, I would express a hope that, where the criticisms and suggestions in this paper may have been faulty, they may at least have had the advantage of calling attention to some points, in the teaching of geometry in schools, that are worthy of careful consideration.

Mr. Phillips remarked that his experience in teaching boys convinced him that every teacher must have encountered the difficulties referred to in the lecture, which he looked upon rather as a history of bygone times than as a help to teachers in the future. With regard to examinations, he considered that examiners were rather too exacting in expecting young boys to be able to work deductions.

Mr. Orchard said that he thought the lecturer's suggestion, that before commencing the study of Euclid children should go through a preliminary training in geometry, was a very valuable one. During this prelimary course the teacher might work one or two problems on the blackboard, taking care not to hurry through them, but making sure always that the pupils thoroughly understood one step before going on to another, so that the fundamental ideas or logic of the subject might be firmly established in the mind.

Mr. Hamilton observed that it was difficult for beginners to understand the necessity for the constructions used by Euclid in the working of geometrical problems. He thought it would be more useful if practical and theoretical geometry were taken together than that the study of Euclid should be preceded by exercises in practical geometry, as suggested by the lecturer. Children might be taught a good deal of practical geometry by means of paper folding, and it was quite possible by this means to suggest geometrical proofs which the pupils would have no difficulty in following. He considered that Euclid's plan of proceeding from a general proposition to a particular case was open to objection, and he preferred rather to leave the pupils themselves to generalize from their own knowledge of geometrical facts.

Mr. Taunton remarked that if they adopted Euclid's system they were confronted with two difficulties in the study of geometry, viz.: (1) that a number of points were assumed, and (2) that certain statements were not absolutely proved. For beginners it was very necessary that references should be given at each step, and reasons should be put before results—a separate line for every reason.

Miss Franks thought that the study of Euclid was entirely unsuitable for young children, who ought to do a great deal of practical geometry, and acquire a knowledge of form by means of paper folding, &c. They should at first use their own expressions, gradually replacing these, as they advanced, by the language of geometry. She had seen numbers of children do useful work in geometry in this way, and the knowledge thus acquired formed an excellent introduction to the subsequent study of Euclid.

Miss Heppel said she had found that the study of Euclid was of great advantage in developing the reasoning faculties of girls. It was especially useful in the case of girls who were deficient in mathematical capability.

The Chairman said he had listened with much interest to the lecturer, who had large experience in the teaching of mathematics. In teaching geometry it was not sufficient to get the pupils to write out one proposition after another. There should be an introductory lesson, in which they should be told what they would find and what they would be expected to do. Teachers must get down to the level of the children in order to bring them up to their own. He was not disposed to commend the practice of some teachers in introducing problems from the third book of Euclid by way of riders when pupils were studying the first book. From the point of view of an examiner he considered that no papers presented so much difficulty as Euclid papers, as the examiner had to deal with a variety of methods. This difficulty was increased when the sequence of propositions was varied. It was important, therefore, especially in view of the fact that the same candidates were often sent in for several examinations, that some general agreement should be arrived at as to the teaching of geometry, which should serve to define more clearly the task of the teacher, and would secure that the work of the candidates should meet with acceptance at the hands of the different examining bodies.

Mr. Heppel having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A meeting of the Council was held at the College, Bloomsbury Square, on the 17th of March. Present—Dr. Wormell, Vice-President, in the Chair; Miss Bailey, Mr. Bayley, Rev. J. O. Bevan, Mr. Bidlake, Mr. Charles, Miss Day, Mr. Eve, Mr. Harris, Rev. R. Lee, Dr. Maxwell, Mr. Pinches, Mr. Reynolds, Rev. W. J. Savell, Rev. Dr. Scott, Mr. Sergeant, Mr. Stewart, Mr. Storr, and Rev. J. Twentyman.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the distribution of Diplomas, Prizes, and First Class Certificates to the successful candidates at the recent Christmas Examinations of teachers and pupils would take place on the 31st of March, when the chair would be taken by the Right Hon. James Bryce, M.P.

The Report of the Teachers' Training Committee was adopted.

The following persons were elected Members of the College:—

Mr. W. H. Collins, A.C.P., Willesden High School, Harlesden, N.W.
Miss R. Fairbrother, A.C.P., Arnheim, Bournemouth.
Miss J. F. Hibbert, A.C.P., Colt Hill House, Oddiham, Hants.
Miss M. E. Jarvis, A.C.P., 121 Evering Road, Stoke Newington, N.
Miss L. Perry, A.C.P., Highfield, Hendon, N.W.
Mr. J. S. Ross, L.C.P., Halifax New School, Halifax.
Miss A. M. Seymour, A.C.P., Milton House School, Atherstone.
Mr. J. Shelmerdine, C.M., Raunds, Thrapston.
Mr. E. J. Smith, Matric. Durham University, St. Margaret's College, Lowestoft.
Mr. S. H. Still, First Class College of Preceptors, Crypt Grammar School, Gloucester.

The following books had been presented to the Library since the last meeting of the Council:—

By Blackie & Son.—Leask's Aytoun's Burial-March of Dundee and Island of the Scots; Melhuish's Cornelius Nepos; The Raleigh Handbooks of English History, Standards IV. and V.; Beuzemaker's Second French Course; Carver's Selections from Nepos; Evans's Selections from the Spectator; Le François' Cladel's Achille et Patrocle; Wakefield's Hygiene and Physiology; Examples in Word-Building.

By W. B. Clive.—Wyatt's Chaucer's Prologue and the Man of Lawes Tale.

By C. J. Clay & Sons.—Moule's Epistle to the Philippians (Cambridge Greek Testament for Schools and Colleges); Spencer's Chapters on the Aims and Practice of Teaching; West's Bacon's Essays; Woodward's Vittorino da Feltre and other Humanist Educators.

By the Agent-General for New South Wales.—Coghlan's Statistical Account of the Seven Colonies of Australasia.

By the Volta Bureau, Washington, U.S.A.—Bell's Phonetic Syllabication the cure for Defects of Speech.

A MOTHER OF GIANTS: ANNE, LADY BACON.

By Guy Cadogan Rothery.

That men not infrequently owe much of their mental powers to their mothers is a trite observation. Quite apart from obscure workings of heredity, maternal influence is nearly always great from the mere fact of children necessarily being largely under the moral control of their mothers. Their after careers must, in a considerable measure, depend upon the early shaping or warping of the young minds. In some instances such influence is sharply marked. With Anthony and Francis Bacon we trace both heredity and maternal ascendency.

Anne, Lady Bacon, the mother of these intellectual giants, was the centre of a charming bevy of eminent women whose position and qualities made them noticeable during that most remarkable of periods, the reign of Henry the Eighth. "Good King Hal," in spite of his manifold faults, was a literary monarch, who gave his children liberal education, and made learning fashionable in the court, schools, and the country seats of his lieges. Anne, the second daughter of Sir Anthony Cooke, was happy in both her parents, they being justly celebrated for their wisdom and scholarship. She had several sisters, and they imbibed copious draughts of knowledge under the personal supervision of their father, becoming skilled in Greek, Latin, Italian, and French, in philosophy and logic. All the girls married well, and, in spite of their new duties and responsibilities, continued to study diligently, more than one contributing to the literature of the day. Mildred, the eldest, married Sir William Cecil, Lord Burleigh; while Elizabeth married first Sir Thomas Hobby, and secondly John, Lord Russel; Katharine became the wife of Sir Henry Killigrew; and Margaret of Sir Ralph Rowlett. All had large families, and, while known as good mothers, kept a high place in the literary circles of a learned age.

Anne, we are told, so early manifested a shrewd well-balanced mind, astonishing memory for the classics, and, withal, an ardent attachment to the reformed religion, that she was considered a marvel of feminine virtue. Many biographers affirm that she was associated with Sir Anthony Cooke in his governorship of young Edward, Prince of Wales, who was afterwards to blossom out into that curious anomaly Edward VI. Quite early in life she formed settled opinions and acted under the dictates of most decided religious views. In 1550 we find her translating from the Italian fourteen sermons of the "right famous and excellent clerk Master Bernardine Ochine," a literary achievement which met with

the approval of Churchmen and laymen alike. Six years later she married the widower Sir Nicholas Bacon, who had already a family of six around him. This great change in life did not wean her from her studies, for in 1564 she added another contribution to literature. It was a translation from a weighty Latin book, and came about in this way. When Pope Pius IV. called upon Queen Elizabeth to send representatives to the Council of Trent, and that outspoken ruler bluntly declined the honour, a vast number of pamphleteers in all quarters of Europe immediately went to work attacking our Church, State, and sovereign. To these attacks John Jewel, Bishop of Salisbury, drew up an "Apologie for the Church of England," in scholastic Latin. The book had a wide circulation, creating much stir; admired by the adherents of the Reformation, it had the happy effect of silencing many enemies. There was a goodly class of people at home who wished to become acquainted with the book, but, possessing merely a knowledge of the vernacular, were hindered from so doing. To the wants of these Lady Bacon determined to devote her time and skill. Translating the book, she sent transcripts of her MS. to the Archbishop of Canterbury and to Bishop Jewel. Both prelates wrote fully and unreservedly approving the work. "Cantuar." thanked the translator in a flowery Greek letter, wherein he expressed the Church's obligation for the good work done, and hoped that her labour would serve as an example to others in the use of a sound education. This English version of the "Apologie" passed through two editions, the second being called for in 1600.

Meanwhile there were born to her two sons, Anthony and Francis. Learned, she was nevertheless a true woman. She devoted her time and care to the rearing of these sons in their infancy, and while life lasted was always ready with assistance and advice. As they grew up, budding forth from infancy to childhood, from boyhood to man's estate, she was ever at their elbow, helping them with her counsel and seeking to keep them in the straight path of duty. She shared with her husband the pleasant toil of educating these two delicate young spirits. Of Francis we hear that he early manifested a love of knowledge. As we know, Elizabeth was amused at his precocious gravity and sedate speech, in lighter mood deigning to call him her "young Lord Keeper." But it is needless to sketch his intellectual growth; suffice it to say that in his early schemes for the advancement of knowledge, his keen interest in the fortunes of the Church, we trace the guidance of his mother.

It is as a mother that we specially admire Lady Bacon. Her affections and her sense of duty were occasionally in conflict, but we find her guiding these two future great men in their boyhood; nervously, somewhat reluctantly, allowing them to go from her to the University. Whether they were at Cambridge, in Gray's Inn, in the country, or away on the distant Continent, however, the anxious mother continued to watch and advise. We read her passionate letters to the young men out battling in the world, and cannot help smiling at her manifest dislike to abdicate; she is full of energy, and her anxious love is apt to make her now petulant, now domineering. When the delicate Anthony goes abroad, gets into suspicious company, undertaking perilous work, appearing dangerously as though playing with the edged tools of treason, Lady Bacon is all vigilance, and when Anthony sends over a Roman Catholic messenger, one Lawson, to his uncle Burleigh, she comes forward and causes the unfortunate wretch to be cast into prison. Kind, trustful, and loving Anthony immediately despatches his friend Francis Allen to intercede with his lady mother. But Allen writes to say it is of no good; even poor Francis, though longing to help his brother, dares not interfere. "When you have received your provision," he writes, "make your repair home again, lest you be a means to shorten her days, for, she told me, the grief of mind received daily by your stay will be her end; also saith her jewels be spent for you, and that she borrowed the last money of seven several persons." Anthony, the unruly, only returned two years later, and we find the forgiving mother writing him an affectionate letter of welcome. "That you are returned now at length I am right glad. God bless it to us both." Of Lawson she says: "I can hardly say whether your gout or his company were the worst tidings. . . . I trust you, with your servants, use prayer twice in a day, having been where reformation is. Omit it not for any. It will be your best credit to serve the Lord duly and reverently, and you will be observed at the first now. Your brother is too negligent herein, but you do well and zealously; it will be looked for of the best learned sort, and that is best. . . . So fare you well, and the Lord bless you and keep you for ever." And so they made it up, and the family was at peace and united once again.

This keen-sighted woman, with her fiery temper, and quick impatient ways, had a very accurate knowledge of the great Francis. She deplores, and is often alarmed at, his too kind, yielding, and trustful disposition. She knows his weaknesses, which, alas! were afterwards to lead him into such dire straits; she constantly warns him against his servants and stewards. The indefatigable woman even offers to become his steward herself, and is anxious and angry when he declines a proposition which rather alarms him. "How could the obstinate boy be so determined to be robbed and led into disgrace?" she exclaims; and, when Francis, fondly, but weakly, evades the question, she petulantly writes to Anthony: "I do not understand his enigmatical folded writing." She saw clearly enough, however, that here was another unlucky wight who would obstinately persist in running his head into a noose rather than listen to reason.

It is curious to see how she always espies enemies at her boys' elbows, ready to egg them on to all kinds of dangerous misdeeds. It is the Papists, Lawsons, Percies, and others, who lead them astray; for they are good but in some respects weak young men. To Anthony she writes: "I send the first flight of my doves to you both, and God bless you in Christ." She could never see why those handsome young birds of hers should grow such strong pinions and soar up into the air so far from their cosy nest. And she would always have them know that the nest was ready for them, the mother waiting to welcome them back.

Surely this picture, so homely and yet so grand, is one worthy of our attention and sympathy. The fine folks at York House and Gorhambury were after all much akin to the everyday world, loving and human, clinging close to each other, and battling with passions. It is at once one of the most affectingly simple and one of the most ennobling of pictures this, of father and mother not entirely absorbed in worldly schemes of grandeur, but devotedly attentive to their offspring. Luckily for us, these pictures are not restricted to one sphere of life. We may admire them in the manor house and in the humble cottage. There is little difference but in degree. Certain it is that the poor "goodwife," with her small knowledge of book-lore, but high moral qualities, who, with the stern determination to do her duty, rears up a large family of boys and girls to walk in the right path, upon the miserable and uncertain daily salary of her "goodman" and herself, is a heroine. The path of duty lies straight before her, often up-hill and rough, while the side-paths leading downwards, and always downwards, seem smooth and fair to the eye; but the straight path is the true highway, and the homely mother, with her sense of proper pride and duty, guides her young flock along it, careful to avoid, so far as her dim light will allow, the pitfalls by the way. To such a one the duties of a parent to her children are sacred, and do not end when they are sent off to the fields, the gutter, or the Board school; the responsibility of rearing those small men and women rests with the father and mother, she knows; and to her those responsibilities, though heavy in all conscience, have their sweets as well as their bitters. That there are many such women scattered over the length and breadth of these realms is one of the surest guarantees we have of the future well-being of our country. All honour is due to them; and let us hope that the great blessing of wider book knowledge and advantage of clearer sight possessed by their more fortunate and wealthy sisters will reach them, and help them to strive on in their honourable labours. Human nature is common to all, to every class of society. Only, alas! how often at the two extremes is nature choked and nearly smothered by artificial habits and passions! We can only bemoan that it is so, and hope that better times are at hand.

Lady Bacon, we cannot help believing, in spite of all her anxieties, considered herself richly rewarded for her self-sacrificing devotion: for she had the love of her boys, who, after all, were good enough of their kind, and cut no mean figure in the world. She had the full true love of both of these dearly cherished sons: we hear poor Francis calling out in bitter anguish when the dear mother lay dead in the splendid palace of Gorhambury. That cry of pain is a weighty lesson to whosoever reads it aright.

SCHOLASTIC ZOOLOGY.

PERSONS { Dr. PEDAGOGUE. / Mrs. PEDAGOGUE. / Mr. BOUNCE, Mr. SPRING, Mr. JELLY } *Candidates for a vacant Assistant-Mastership.*

SCENE—Artless Academy.

I.—AT BREAKFAST.

Mrs. Pedagogue (receiving a plate of cold ham from the Doctor)—Thank you. Oh, what a slab you've cut me! But there, never mind, my dear! I suppose you're bothered about that wretched vacancy. Oh, I wish Mr. Roots hadn't taken it into his head to take Orders. He was such a *dear* man!

Dr. Pedagogue.—Yes, his salary *was* rather high, and I never could get him to take orders into his head.

Mrs. P. (laughing)—For shame, John! But you don't seem very miserable about the interview. Have you made up your mind?

Dr. P.—No; but I am reduced ——

Mrs. P. (archly)—To distraction?

Dr. P.—No—to three.

Mrs. P.—And what are they like? Tell me their names.

Dr. P.—*Imprimis*, Mr. Bonaparte Bonnee.

Mrs. P. Oh, I suppose he's conceited.

Dr. P.—Judge for yourself, my dear. (*Referring to a sheaf of letters and reading from them in succession, interpolating comments.*) "My dear Sir, I have much pleasure in requesting you to offer me the appointment of senior mathematical master in your high-class school. I am pre-eminently fitted for such a post, having taken my M.A. in Classics in the University of Durham and recently coached in Mathematics a candidate for the London Matriculation. I have been distinguished for all-round capacity since childhood, and have no doubt of being able to teach all the subjects you name, which are well within my reach ——" Want to hear any more, my dear?

Mrs. P.—No, thanks! Why, in the name of patience, have you asked *him* here?

Dr. P.—Well, he has very warm testimonials for—a—Classics ——

Mrs. P.—But ——

Dr. P.—Yes, I know; but I thought possibly Gerund might take over the Mathematics and give up the Latin to ——

Mrs. P.—Oh, well, who's next?

Dr. P.—Mr. Wellington Spring.

Mrs. P.—Oh, he's a fount of learning, I suppose?

Dr. P.—No, he's athletic—stands six foot two in his stockings—holds the North Road record for rimless tyres, and has blue eyes.

Mrs. P. (*with a faint scream*)—What?

Dr. P.—Blue eyes.

Mrs. P.—How silly you are this morning, John! Pass the mustard, please.

Dr. P.—Upon my word, that's what he says in his letter.

Mrs. P.—What a fool the man must be!

Dr. P.—Not at all. The agency instructed candidates to send photos, and he hasn't got one of recent date. He thought the statement of that fact would do ——

Mrs. P.—For him, yes. Has he got warm testimonials, too?

Dr. P.—Yes. Some of them positively perspire with praise—and (*slily*) I thought I should like to see the lovely blue eyes.

Mrs. P.—If it had been an assistant-mistress ——

Dr. P. (*demurely*)—You could have understood my anxiety?

Mrs. P. (*severely*)—Yes! Who's next?

Dr. P.—Mr. Henry d'Eresby Jelly.

Mrs. P.—Aristocratic?

Dr. P.—Yes; he's got a gilt crest on his envelope, a preposition to his name, and a most extraordinary complaisance in his qualifications. What does he want with a mastership in a school like this, I wonder?

Mrs. P.—Younger son, I expect.

Dr. P.—Prodigal son, perhaps. "I am of opinion," he writes, "that an assistant-master should have no opinions. Whatever the headmaster does is right, and an assistant has only to assist him in doing right."

Mrs. P.—There's a double meaning in that.

Dr. P.—Yes, it might, if conceded, form the basis of a claim to *set* the headmaster right when Henry d'Eresby thought him wrong.

Mrs. P.—But you don't often get hold of an assistant who is willing, at any rate, to assert the infallibility of the headmaster.

Dr. P.—No, and when I come across one I always feel inclined to exclaim: "Timeo Danaos et dona ferentes." But he goes further. "Holding this opinion ——"

Mrs. P.—But I thought he disapproved of assistants holding opinions?

Dr. P—Oh, he is a headmaster ——

Mrs. P.—Then why ——?

Dr. P.—Whose school has gone into a decline.

Mrs. P.—Then I should certainly refuse to entertain his application.

Dr. P.—Lest, seeking an assistant, I should entertain a headmaster unawares?

Mrs. P.—And live in martyrdom, suffering for your opinions. (*A bell rings.*) There they are! Finish your coffee, dear; and don't forget to fold up your serviette.

Dr. P.—Oh, I can't wait! (*Exit hurriedly.*)

Mrs. P. (*taking up his serviette to fold*)—You wretch!

II.—In the Headmaster's Study.

(*Dr. Pedagogue reading a letter at his desk.*)

Mr. Bounce (*entering and scanning the room with raised head*)—Ah—a—ahem! Dr. Pedagogue, I presume?

Dr. P. (*half rising*)—The same. Pray take a seat.

Mr. B. (*taking a chair*)—A—ahem! Thank you. I believe you find it very difficult to get a mathematical assistant?

Dr. P.—Very; and I believe your own qualifications ——

Mr. B.—Yes, they are generally so feeble.

Dr. P.—Your qualifications?

Mr. B.—Eh? No—mathematical teachers. What you want is a man with a sound classical education who has intelligence enough ——

Dr. P.—But I have heard of a great classical doctor who could not do an addition sum right.

Mr. B.—Libel, sir—an atrocious libel. But I won't deny that my width of attainment is exceptional. I despise a bumptious man, sir; but ——

Dr. P.—A man cannot help knowing his own merit.

Mr. B.—Just so. I admire your penetration, sir. And now you have seen me, I may consider myself ——

Dr. P.—One of the selected candidates.

Mr. B. (*aghast*)—One—of—the ——!

Dr. P. (*bowing him out*)—A—yes. I have several other gentlemen to see, and then ——

Mr. B.—Oh yes, of course—as a matter of form, and then you will appoint ——

Dr. P.—The best candidate. Kindly wait in the next room with the others till ——

Mr. B. (*going out indignantly*)—With—the—others! [*Exit.*

Dr. P.—Yes—a—sorry to ——(*putting his head through the door over Mr. Bounce's shoulder.*) Will Mr. Spring kindly step ——?

Mr. Spring (*striding in*)—Good morning, Doctor—awfully good of you to select me.

Dr. P.—Not at all, my dear sir. There are several others. Matter of business, you know. Pray sit down.

Mr. S. (*somewhat dashed*)—Oh, to be sure. Thanks. I'd rather stand.

Dr. P.—But then you're so far above me.

Mr. S. (*laughingly taking seat*)—Ah, Doctor—physically.

Dr. P.—Or cyclically?

Mr. S.—Ha, ha! You're afraid of my getting *round* you.

Dr. P.—Well, well, I like your testimonials—but—athletics are rather overdone now in schools, you know, and I'm afraid ——

Mr. S.—I should want to get off to the Oval too often?

Dr. P.—No; I thought your tastes were more in the direction of the circle.

Mr. S.—Ha, ha!—yes; but I'm a votary of the willow as well as the wheel.

Dr. P. (*affecting to sigh*)—"Oh, willow, willow!" I'm always humming that lament. I can't get my boys to think of anything but cricket these summer months, and, if I appoint you ——

Mr. S.—But you see from my testimonials I am mathematical too, and though you may think me a fool ——

Dr. P.—No, no!

Mr. S.—For mentioning about the eyes ——

Dr. P. (*with suppressed merriment*)—Oh, ah, the eyes.

Mr. S. (*hanging his head sheepishly*)—It was really my wife—a—Well, Doctor, you're a married man and you know.

Dr. P. (*laughing heartily*)—Ha, ha, ha! Yes—ha, ha, ha!—I know. (*Aside*) I like this man. (*Aloud*) Well, Mr. Spring, I'll think it over. I thought I'd like to see you first. (*Rising.*) You won't mind waiting a while in the next room?

Mr. S. (*jumping up*)—Not at all.

Dr. P. (*putting his head through door right*)—Mr. Jelly!

Mr. Jelly (*entering*)—Good morning!

Dr. P.—Good morning! (*They sit.*) A—you—are the gentleman who has no opinions?

Mr. J.—As an assistant—yes.

Dr. P.—And you are sure that, after having paddled your own canoe for eight years, you won't find it irksome to take an oar in another man's boat?

Mr. J.—Quite sure—provided you let me row stroke.

Dr. P.—Aha, but I do not approve of second masters—even when they have no opinions.

Mr. J.—Oh, I don't mind—anywhere will do for me—anywhere.

Dr. P.—So! Well, there is one point I wish to clear up. (*Picking up a letter.*) You say here, "An assistant has only to assist the—a—headmaster in doing what is right." Am I to understand that if he should—though you say he never does, in which, by the way, I can't follow you—do wrong, assisting him to do right would include setting him right?

Mr. J.—Assuredly; but then he never ——

Dr. P.—Just so. Now I understand your position. You would be a useful colleague, I am sure. Kindly wait a few minutes in the next room. (*Exit Mr. J.*) 'Pon my word, I'm just where I began. Spring's the only one I could endure, and I'm afraid—I'm afraid—Well, I'll go and have a talk with Bertha.

III.—In the Waiting Room.

(*Messrs. Bounce, Spring, and Jelly discovered sitting or standing about the room.*)

Mr. S.—Well, what did you make out of the Doctor? He blarneyed me no end, but *told* me nothing.

Mr. B.—Exactly. Just my experience.

Mr. J.—And mine.

Mr. B.—Thick-headed enough to be a mathematician.

Mr. S.—Eh? What's that? Thick-headed ——

Mr. B.—I took my stand on the classics, and he talked of the best candidate! Good heavens, if a Classical M.A. can't teach mathematics—well, I'm sorry for the education of the country.

Mr. S.—He humbugged me about cycling and the Oval, but I rather liked him on the whole.

Mr. J.—He wanted to know ——

(*Enter Dr. Pedagogue. The candidates spring to attention.*)

Dr. P.—Well, gentlemen, I'm sorry to say I can't make up my mind. Your qualifications, though very different ——

Mr. B. (*proudly*)—Ahem

Dr. P.—Are, in general excellence—taken as wholes, I mean—so very equal ——

Mr. B. (*shocked*)—Equal!

Dr. P. (*glancing slily at Mr. B.'s indignant face*)—Yes—a—so very

equal, that I must consider the matter further. You shall hear from me in the morning, gentlemen. Good day! (*Shakes hands as they pass out.*)

Mr. J.—Good day! (*Aside*) Sphinx! [*Exit.*

Mr. S.—Good day! (*Aside*) He'd be good at point; his presence of mind is remarkable. [*Exit.*

Mr. B.—Good day! I presume there can be no doubt as to my ——

Dr. P.—None whatever! (*Exit Mr. B.*) Thank goodness, that's over! Now I'll go and have a smoke. [*Exit. Curtain.*

HEADMASTER.

REVIEWS.

THE ART OF THE TEACHER.

Chapters on the Aims and Practice of Teaching. Edited by Frederic Spencer, M.A., Phil. Doc. (Cambridge University Press.)

There are a dozen of these chapters, and each of them is written by a different specialist. Together they cover the substantial elements of the ordinary school curriculum, and treat of the most efficient methods of teaching the various subjects. The editor puts them forward "as an endeavour to meet a want which is increasingly felt." It may be so, indeed; but, in that case, the reason must be that such teachers as feel the want do not know where to look for the literature of their business. There is really little in this volume that can be claimed as brand-new. Still, the book is to be welcomed. The writers are all live men, and handle their subjects with the strength of knowledge and practical experience. They put a fresh gloss on materials that are not particularly new, and they invest dry bones with a vivid impulse. Most teachers will find advantage, as well as pleasure, in perusing their pages. The points they deal with are such as need to be emphasised with continuous persistence. The book would also do good to folk outside the ranks of teachers, particularly to those that control the scheme of educational procedure. For example, if there is one thing more than another that all our writers agree upon, it is the hurtfulness of the existing tyranny of examinations; and this is a point that can be reformed only by official indoctrination with better ideas. These essays are marked also by much inequality of treatment: the editor does not seem to have laid down very definitively a uniform scheme for all his contributors, or they have broken through his prescription. The chapters are also very unequal in value, but this is probably inevitable in the circumstances. As a whole, however, the volume ought to tend strongly in the direction of reasonable progress, and on that ground we trust that it will be widely studied.

The article on Greek is stimulating, though probably rather ambitious in its suggestions; yet its largeness of scope ought to make it a fruitful instrument in the hands of a really judicious teacher. The Latin chapter also tends towards counsels of perfection, but it is compact, forcible, and discriminating; the "suggested scheme of Latin reading," however, does not strike us as by any means worthy of the occasion. Professor Spencer, himself, deals with French and German. He looks to Belgium, and to the best schools of Germany and Switzerland, "for guidance and encouragement." Especially interesting is his detailed account of "an experiment in the teaching of German from the beginning on a direct system." We can quite understand that he must be successful on the plan he outlines, but really it is difficult to see how the same result could be missed by the adequate treatment of Ollendorff or Havet's exercises, or the text-books of newer writers, in the same fashion. Certainly there must be a distinct advantage to the students in having their materials permanently before them for reference. As to the paper on English, perhaps too little consideration is given to the fact that in no other department of school studies can such important help be got from a judicious direction of a student's private reading. Besides, it is easy to expect too much from the school age in the way of literary, artistic, and ethical appreciation. But we have thorough sympathy with Mr. Way's denunciation of certain notes to editions of Shakespeare's plays, as "a wilderness of philology, a lumber-room of cross references, a jungle of quarto and folio readings and commentators' emendations, a mingled mass in which the student has to grope, without even the help of an index, for the small fragments which can be of any use to him in interpreting the text and understanding the allusions." What does Mr. Way think of the English papers set in the University of London? There is more to be said on history before we get to the bottom of the problem of teaching it, though Mr. Lloyd is impressive as far as he goes. The papers on geography, algebra, and geometry are exceptionally good, especially the last; and physical science, chemistry, botany, and physiology are ably handled by experts, though one might have expected Dr. Hill to express himself in more definite terms on the difficult question of the teaching of physiology. The whole work is most timely and suggestive, and no reader need go empty away.

THE IDEALITY OF THE GREEKS.

Introductory Studies in Greek Art. By Jane E. Harrison. (Fisher Unwin.)

Miss Harrison states in her preface that her object in these pages is not so much to give a history in outline of Greek Art as to explain the meaning of the special and imperishable quality which that art alone possesses, a quality which has no limits of race or of time, but appeals to every nation and to every age. Few, we imagine, will deny that, in the two thousand years since Pheidias fashioned shapes of serene and inimitable beauty to express his ideals, art has been able to advance (so far as those ideals are concerned) no further. Perfection was attained, but it was a splendour which waned all too soon. Miss Harrison illustrates the predominant quality of Greek Art at its best by references to the teaching of the most ideal of philosophers, and especially by the impassioned yet serene "Phaedrus." "Greek literature," she says, "is the best and only comment on Greek Art. Of the gradual growth of this ideality, of the foreign influences that affected it, of the characteristics of race, tendencies of mind, religious and social customs that shaped it, of its early struggles, brief sway, and final fall, Miss Harrison treats very fully in these half-dozen studies. Through the medium of enterprising Phœnician traders plying their "black ships" across the sea, carving their way from east to west, Greece was brought into contact with the matured art of Egypt and Chaldaeo-Assyria. The chapter on Egyptian art is full of interest, tracing the growth of its abstractive tendency from the original realistic portraiture that arose out of immature ideas on religion and crude conceptions of an after-life. In Assyria, partly, no doubt, owing to beliefs even less spiritual and idealistic, this monotony and conventionality were intensified until nothing but dry symbolism was left. The Greeks rejected the realism of Egypt, the symbolism of Assyria (save for decorative art), and out of three leading tendencies developed an idealistic art of their own. These tendencies were anthropomorphism, hero worship, and a desire for perfection of form, and all were largely instrumental in deciding the character of the national art. The remaining chapters show how Greece gradually abandoned the ideal, and so declined; resuming for a brief period the realistic method she had once rejected, in a vain effort to gain a fresh inspiration.

Few will close this delightful book without a desire to commence, or carry further, as the case may be, the engrossing study with which it deals. The subject is always of absorbing interest, and Miss Harrison is well fitted to cope with it. Moreover, these studies are written in a clear and lucid style, the argument is well thought out, and the important is sifted from the immaterial, without over-much detail. Miss Harrison has evidently no enthusiasm for the realistic school. And here she has the support of Plato, in whose eyes the "imitator" comes almost lowest in the scale of merit; for he argues that imitation arises only because the imitator has not succeeded in catching, during his former existence, a clear vision of truth and beauty. It would be interesting to trace how far this doctrine falls in with the modern theories on Art.

In the pages dealing with Praxiteles, of whom Diodorus said that he "actually blended with his marble works the emotions of the soul," we learn how Greek art, which had risen from crude infancy, as typified by the metopes of Selinus, to the splendid grace of its prime, as exemplified in the friezes of the Parthenon, affected by the change in political circumstances, the growth of individualism, and the increasing subjectivity of the Hellenic atmosphere, became "pathetic" rather than "ethical"—that is to say, how in its representations the moods of the individual became more prominent than the national character of the State. Art became more human, less sublime. Yet, possibly, to many minds, especially at the present day, would not Praxiteles appeal as strongly, if not more strongly, than Pheidias? Be this as it may, in Miss Harrison's eyes this is the fatal turn, the beginning of the end. It prepares the way

for the overstrained realism of Eumenes' altar at Pergamos. Even in Plato's lifetime the change had begun, and from bitter protest he passes to hopeless acquiescence.

To epitomise the argument of the book, we may quote a passage from the chapter on Pheidias :—

Only by the help of Plato's theory of ideality in art can we understand the especial distinctive character and quality of Pheidias . . . Ideality comprehends his majesty, the grandeur of his art, his dignity, his largeness and his beauty, his fineness and delicacy, his divine element, also his repose, his self-containedness, his tranquil air, the peace he brings to the troubled heart of the beholder; for "if there be any of mortals whatsoever that is heavy-laden in spirit, having suffered sorely many sorrows and calamities in his life, nor yet winning for himself sweet sleep, even such an one, methinks, standing before the image of the god, would forget all things, whatsoever in his mortal life was dire and hard to be endured, so wondrously hast thou, Pheidias, conceived and wrought it, and such light and such grace shines upon it from thine art."

Miss Harrison is so saturated by her subject, and her judgment is so sound, even when she is most enthusiastic, that her "Studies" will attract quite as many as they instruct.

A Mantuan Humanist.

Vittorino da Feltre, and other Humanist Educators. By W. H. Woodward. (Cambridge University Press.)

Readers of Bacon and Milton will recall the unmeasured abuse heaped on the educational system of the Humanists and Schoolmen—that "asinine feast of sow-thistles and brambles," as Milton calls it; that "first distemper of learning, when men study words and not matter," as Bacon terms it. But the faults in the educational system of the sixteenth century do not belong to that of the end of the fourteenth and first half of the fifteenth centuries. It is as unfair to judge the earlier Humanists by the errors of their successors as it would be to condemn the work of the first friars because of the imperfections of those with whom Chaucer was acquainted. This point is clearly established by Mr. Woodward. In his very interesting little book he gives us, first, an account of the career of the schoolmaster, Vittorino da Feltre, whom he calls "the first of modern schoolmasters"; secondly, a translation of four noteworthy treatises on education produced during this period; and, lastly, a scholarly and well-written review of education as conceived by Humanist scholars. The subject is interesting not only to the student of the history of classical teaching: such an account as we have here of the experiences and aims and ideals of the great teachers who had to invent their methods as they went along, and teach Greek and Latin without the aid of lexicons or grammars, almost without text-books, and who always sought to produce not merely scholars, but capable and virtuous men, and succeeded, cannot fail to have a stimulating and suggestive effect upon teachers even of quite different subjects.

The period is of the first Renaissance, fifty years before the fall of Constantinople, nearly a hundred years before the full fruitage of the Italian Renaissance described for English readers in the pages of "Romola." Da Feltre was born in 1378, soon after the death of Petrarch, at the time when Wyclif was translating the Bible in England and Chaucer had not yet begun his "Canterbury Tales." A student in the famous University of Padua, he soon became famous for his Latinity, and in 1415, the year of Agincourt, began to learn Greek at Venice from one of the few teachers living, Guarino, the pupil of Chrysoloras, and soon became noted as a teacher of the new learning. It was the fashion of the time for princes to support the arts or learning, and the Lord of Mantua, the Marquis Gonzaga, engaged Da Feltre, at any salary he chose, to teach his children. Gonzaga was a respectable prince—"his assassinations were not obtrusive," says Mr. Woodward—and Vittorino agreed to serve him "so long as your own life shall command respect." Surely this was the golden age for schoolmasters.

In a palace surrounded by playing-fields, he opened what soon became a noted school for the children of noble houses. His pupils were of all ages, and, to some extent, of both sexes, for one of his best Greek scholars was the young daughter of his patron. There is much interesting information in this book on the large share girls had in the Humanist system of education, and of the success they attained.

The object of the early Renaissance teachers was, like that of Milton, the latest Renaissance writer, to fit their pupils to fulfil all the duties of citizenship both in peace and war. It is noteworthy that an ardent recognition of the Christian ideal and the Christian faith is the mainspring of the teachers whose work is recorded or whose writings are published in this volume. It was not so with the later Humanists; the moral influence of the Renaissance tended to Paganism in thought and gross license in action. It was Vittorino's aim, and indeed his achievement, to reconcile Humanist ideals with Christian life. It is noteworthy also that he, like most of the great teachers of the period, was a layman. In the formation of character, these teachers laid great stress on the importance of the earliest years, and on the necessity of establishing personal and friendly relations between the master and the pupil. The harshness of the earlier and of the later periods was conspicuously absent during this.

The enthusiasm of the pioneers of the new learning inspired their teaching and directed its form. But it was not allowed to obscure the ultimate aim, that of producing the best type of citizen. Aiming, above all, at the production of a good Latin style, they taught without pedantry, and, though to write like Cicero was the ideal held forth, yet they were what Mr. Woodward calls "rational Ciceronians," admitting the use of late words and an elastic treatment of the language. Modern teachers will find much of interest in the lists of classical authors selected for school instruction or rejected as unsuitable, and again, in the character of the history teaching, to which they attribute much value. It was of more importance that a fact should be well told, and of more significance, than that it should be true. "How," said Vittorino indignantly, "could Livy be inaccurate—a man who was a sound Latinist and a Paduan?" We have left ourselves no room to speak of the physical training, or the training in the art of conversation, and in graceful delivery, to all of which the Humanists gave great care. We trust that our readers will turn to Mr. Woodward's scholarly and useful volume.

A German View of English Education.

Die Organisation des höheren Unterrichts in Grossbritannien. By Dr. Karl Breul, University Lecturer in German, Cambridge. (Munich: Oscar Beck.)

This interesting volume is a separate reprint out of a huge *Handbuch* edited by Dr. Baumeister, which treats in turn of every topic included in secondary education. It comes last in a series of monographs upon all the principal countries of Europe and America. The editor was wise to select for this English section a writer of German nationality who is domiciled in England, following in that respect the precedent set in Schmidt's "Encyclopaedie," which contained an article written by Dr. Schöll, we believe, on "English Education." This, at the date it was written, was superior to anything then published in England. We are bound to admit that Dr. Breul's volume maintains the standard set by Dr. Schöll, and we are at a loss to mention any work written in English which offers so comprehensive a sketch of the present condition of our secondary education. In one sense, we do not need such a book, because we are experiencing what is here described to outsiders; at the same time it seems surprising that no publisher is found enterprising enough to produce a sketch similar to this to place on our library shelves for reference. For those who read German we can recommend the book as a safe guide. We may exhibit the plan and criticise its contents by taking the chapters in turn.

Chapter i., after the German style, is historical. It commences with the middle ages, and concludes with the Bill of last year. The most serious error in this section is in the adoption of current errors relating to the Reformation period. Dr. Breul has followed the views of Parmentier and Findlay, but has apparently not read the invaluable work on the King Edward Schools produced recently by Mr. Leach, of the Charity Commission. This omission is the one defect in the excellent bibliography placed at the end of the volume, and is the more remarkable because reference is made to books which are not yet published! In his account of recent developments, the author scarcely attaches the importance which others would to the effects of the movement for the education of women; indeed, all through the volume he seems to pay less attention to the education of girls. And he has not taken account of the distinctly more favourable judgment upon private schools that has been apparent since the issue of the Report of the Royal Commission. An amusing error is repeated several times—"und (damals) Mr. (jetzt Sir) Arthur Acland"!

Chapter ii., treating of external organization, gives an excellent descriptive classification. Dr. Breul has not quite mastered

the organized science school arrangement, since he ignores the fact that many grammar schools now bear this title. He includes evening continuation schools under secondary education. It is confusing to describe the preparatory schools as "Vorbereitungsschulen auf die 'grammar schools' ersten Grades." The chief deficiency in this chapter is one that no writer can at present be expected to supply; we have no accurate statistics relating to the number of secondary schools, of pupils, or of teachers; and Dr. Breul does not attempt to make an estimate, except in cases where the exact figures are in print.

Chapter iii. gives a really useful account of the body of secondary teachers, written of course from the standpoint of comparison with Germany. It concludes with two pages of excellent advice to German teachers who propose to visit England. In the following chapters the inner organization is described. Examples of school time-tables, &c., are offered, chiefly from first-grade schools; the regulations of Clifton are printed in full by way of illustration. Dr. Breul seeks very industriously to sketch the financial resources of secondary schools, and our complicated examination system, but we greatly fear that his German readers will find the narrative too puzzling. His criticism on these topics is moderate in tone; and he follows pretty closely the views expressed in the Royal Commission Report.

The volume concludes with thirty pages devoted to Wales, Scotland, and Ireland, respectively. These are the weakest parts of the book, for, as the author acknowledges, he writes only at second-hand. Thus, no mention is made of the influence of the Dick Bequest in north-east Scotland, or of the two Chairs of Education in Scotch Universities. We question whether the rapid creation of a number of small schools in Wales is the unmixed blessing which Dr. Breul represents it to be. And, in writing about Ireland, we should not accept the views or figures offered by H. C. Hime as worth recording. Hime has written several books to prove the superiority of Irish to English schools; but Dr. Breul's sketch would lead us to retain the opinion, held apparently by many Irish parents also, that we have little to learn in matters of education from our Irish neighbours.

In conclusion, we have to thank Dr. Breul, whose name is not unfamiliar to our readers, for presenting the education of our country in so favourable and sympathetic a temper to his colleagues in the Fatherland. The book is a monument of industry, and will serve as another bond between two bodies of teachers who are becoming more closely acquainted year by year.

The Ciceronian Circle.

Cicero and his Friends. Translated from the French of M. Gaston Boissier, by A. D. Jones. (A. D. Innes & Co.)

By issuing in an English form M. Gaston Boissier's brilliant study of Roman life in the last days of the Republic, Messrs. Innes & Co. have laid English students under an obligation. The original, "Cicéron et ses Amis," is far too well known to require a detailed introduction to our readers, and of the translation it may suffice to say that Mr. Jones has performed his task with judgment and competence. He has added to the book a good table of contents and an index. The able French *savant* has not always been so justly treated by his English translators.

M. Boissier's estimate of Cicero's character is in accord with the judgment of the best English writers on the subject, such as Mr. Strachan-Davidson and Professor Tyrrell, and it is an estimate that cannot fail to command the sympathy of all English readers who are not overborne by Drumann's "conscientious malevolence," or by those two compact pages into which Mommsen "has contrived to crowd more insults than Drumann's whole volume contains." Besides this claim on our attention, the author possesses an admirable knack of dealing with history in a series of short studies, in each of which, in the most charming manner possible, we get on more or less intimate terms with some famous personage. First we meet Atticus, who, as he is continually "busied in putting himself on good terms with everybody," is of course all anxiety to make himself agreeable to us. And prodigiously agreeable he can be, thanks to M. Boissier. Then Cælius looks in. He has probably come from a visit to Clodia, if we only knew the truth, and is at this moment dreading what that scurrilous Catullus will have to say about it. As for scurrility, though, he flatters himself that he can beat even Catullus when he puts his mind into it. That restless mind of his is so alert to-day that Professor Tyrrell whispers that, for his part, *he* believes the rogue will some day go mad. A suspicion so gloomy has not crossed M. Boissier's mind. To Cælius succeeds Cæsar himself, whose policy Cicero hates as much as he is fascinated by the man. There will be a pretty squabble among the gossips later on over the relation in which the two great men stand to each other, and how it comes that Cicero, since his return from rustication, has been so subservient. M. Boissier holds that it is not an honourable period of Cicero's life, this; and his hero's "most convinced admirers say as little about it as possible." Professor Tyrrell, on the contrary, does not see what there is to be ashamed of, and seems angry with Mr. Froude for saying that Cicero is ungrateful to Cæsar. As for the way Mommsen goes on about it, it is disgraceful. Next M. Boissier introduces us to Marcus Brutus, in whom we can detect no fault, except that he is a trifle dull. With him we do not become very intimate: he is such a superior person. His friend Cassius, too, is haughty; but Cassius can occasionally make a joke. Then, last of all, we have Octavius, whom M. Boissier does not like. We do not find him very entertaining ourselves, but we fancy that he is a little frightened and reserved in M. Boissier's presence. We should have preferred to meet Servius Sulpicius Rufus instead; but, for some reason best known to himself, M. Boissier, who arranged the party, did not choose to invite "the Roman friend of Rome's least mortal mind." Perhaps it is because he only admits into his *salon* personages who are most involved in the great political events of the period. We might wish that he were not quite so exclusive; but we are too full of gratitude to complain.

SHORT NOTICES.

CLASSICS.

Cornelius Nepos: Select Biographies, edited by J. E. Melhuish (Blackie), contains ten of the lives. Mr. Melhuish is more sparing of his notes than Mr. Shuckburgh and Dr. Roberts—to take two of the most recent editors of Nepos. We prefer the renderings given by Dr. Roberts and the historical notes in Mr. Shuckburgh's book. As to grammar, there is little to choose between the three. We see no reason why this latest school edition of Nepos should not exist, if there is room for it. The book is provided with adequate introductions and vocabulary.

Latin Exercises for Lower School Forms, by W. M. Hardman and A. S. Walpole (Longmans), is a very practical little book of exercises on the rules of Latin Syntax, ranging from the concords up to simple examples of *oratio obliqua*. Scarcely any words are used except those contained in the "Shorter Latin Primer," so that the compilers by no means agree with those teachers who make it their object to cram as many words as possible into their pupils. By the latter system they say—and say, we believe, rightly—that training in thought is hampered by the lack of mastery of the material. There is a good supply of recapitulatory exercises, and altogether the book appears to us to be uncommonly well done. In stating the rules heavy type is judiciously employed.

The Early Principate, by A. H. Allcroft and J. H. Haydon (Clive), has run into a second edition, and has thus achieved a success which seems to us thoroughly deserved. The book is well adapted to meet the needs of middle forms in public schools, and of all students for whom Professor Bury's admirable volume is too elaborate. The writers do not attach sufficient importance to the work of Vespasian; and it would be a great advantage to the book if it could be illustrated. There is surely no period of ancient history that receives more illumination from well-chosen reproductions of ancient buildings and works of art than the first century of the Roman Empire. The book would also be improved by the addition of a chapter on Roman life and manners during the period dealt with. We must never tire of insisting that the history of the early Roman Empire does not mean the narrative of court intrigues and frontier wars.

READING BOOKS FOR SCHOOLS.

For Mr. Fisher Unwin's "Children's Study," Miss Frances E. Cooke has prepared a short *Child's History of England*. We have already favourably reviewed the companion volumes on Scotland, Germany, and Ireland. In some respects the "England" seems the best of the series: it is better adapted to its professed end—a study for children—inasmuch as it is simpler both in style and matter. It marks, however, a new departure. Hitherto, histories for children have generally dealt on the picturesque side; vivid character sketches, true or false, battle scenes and pathetic executions, stand out so boldly in relief that the history is lost in the setting, and the child remembers only a number of unconnected facts. The author of this volume seeks rather to tell the story of the growth of the English people after the fashion of Mr. Green. The military element is not emphasised: battles are chronicled, not described, character is indicated only as illustrative of great movements. If it be doubted whether the stories of social

changes such as the Coming of the Friars and the Black Death, and constitutional changes such as the growth of Parliament and the loss of the American colonies, can interest children so much as the adventures of Richard I., the siege of Calais, the execution of Lady Jane Grey—let the experiment be made. We do not think the children will *lose* anything by the perusal of this admirably selected and well written little book.

The Fourth Standard volume of *The Raleigh History Readers* (Blackie) contains twenty chapters on leading events or on the biography of eminent persons from B.C. 55 to A.D. 1603. Standard V. continues the series to the present time. The earlier volume seems too full of "last moments," especially of people who are about to be executed. There is a lurid picture of Lady Jane Grey being killed—in a room instead of on the Tower Green. The second volume is the more interesting. Both, however, are well written and may be commended. There are some good maps and pictures. An appendix gives a summary that is hardly necessary, and a rather meagre attempt to supply connecting links between the stories.—The "Raleigh History Handbooks" are reprints of the summaries at the end of the "Readers," intended to serve as abstracts of the "Readings." *Inter alia*, we learn that "Shakespeare is regarded as the greatest poet of the world, not on account of the quantity, but on account of the quality of what he has written." However, the summaries are fairly well done, on the whole, and there are some clear maps.

Of books intended to be appropriate to the "Diamond Jubilee," we have *Queen Victoria and her People*, in two forms, from the Educational Supply Association, and *A Lantern Lecture on the Personal History of Queen Victoria*, by the Rev. C. A. Lane. This is a series of short paragraphs intended to explain a set of lantern slides on the reign of the Queen. The remarks strike us as uninteresting, inaccurate, and at times wanting in good taste. For instance, we are told that, when the Prince of Wales was thinking of marriage, "there was great activity among royal mothers of daughters, and the young man was deluged with photographs."

The Rev. S. H. Manbey's *Important Facts in English History, 1688–1815*" (Chapman & Hall), is a cram-book of pronounced type, in which "great care has been taken to . . . . exclude whatever is superfluous and unlikely to be of service to candidates." The great improvement in the method of history teaching during recent years has rendered the production of such a book as this superfluous.

Messrs. Chambers's *National History Readers* are brightly written collections of stories and biographies likely to interest children. No. 3 is a more connected history up to 1603. All have fairly good pictures, summaries, and lists of dates and words for spelling.

Messrs. Macmillan's third *Geography Reader* deals with England and Wales. It is an ably-arranged summary of the chief natural and commercial features of the country, and is decidedly interesting as a reading book. *Africa*, by M. J. C. Meiklejohn, B.A. (Holden), is a clear and handy little volume. There is a useful table of African explorers. In one place the history is brought up to the Benin Expedition; but the recent difficulties in and about the South African Republic are not alluded to. *The British Colonies and Dependencies* is a well-arranged book by the same author, and is also published by Mr. Holden. An appendix contains some useful lists of commercial commodities and trade, in which we are glad to note that the nature of the less well known articles is briefly described. There is also a chapter on the circumstances that determine climate. Children often ask *why* it becomes colder as you go up a mountain. Some answer to this question might be added in a future edition.

From Messrs. Jarrold we have a series of elementary *Object Lessons in Natural History*, by E. Snelgrove, intended for the three junior standards, most of which are adapted to form object lessons. The volume is well illustrated, and clearly arranged and printed, and it seems well suited both to give information and to encourage observation. There is a suggestive "note" on the importance of sequence in studies of this sort.

Messrs. Chambers supply two volumes of *Object Lesson Manuals*, with lists of apparatus, illustrations, and blackboard summaries. These manuals are intended to accompany the *Elementary Science Readers* of the same publishers, and they will be found very comprehensive and systematic. They are well printed and clearly illustrated.—Book III. of *Arnold's Object Lessons*, by Dr. Yates, has the good qualities which we have noticed in connexion with the first two volumes. The blackboard illustrations by Mr. A. Twidle are very useful.—Messrs. Macmillan send us the fifth book of Murché's *Domestic Science Readers*.

The Waverley Historical Reader, Book I. (McDougall), is a collection of stories, some of which are now generally believed to have no foundation in fact. The author has been unfortunate in the selection.

Mr. E. Heawood's *Geography of Africa* is a carefully compiled and interesting work, largely descriptive, with illustrations and a map. The history seems hardly brought up to date, but the book is a useful one, especially for teachers.

Blackie's *Science Handbooks*, Standard VI. (Blackie), is a description of charts and experiments useful in the course of the Readings, with directions how to work them and other practical hints. There is also a price list of apparatus and chemicals.

TEXTS WITH NOTES.

(1) Milton's *Paradise Lost*. Books IX. and X. By A. W. Verity, M.A (Cambridge University Press.) (2) *Steele:* Essays from the *Tatler* Edited by L. E. Steele, M.A. (Macmillan.) (3) *Selections from the "Spectator"* (Addison.) By the Rev. H. Evans, D.D. (Blackie.) (4) *Selections from Chaucer's "Canterbury Tales."* By Hiram Corson, LL.D. (Macmillan.) (5) Chaucer's *Canterbury Tales: The Prologue and the Man of Lawes Tales.* By A. J. Wyatt, M.A. (Clive.) (6) *Selections from Malory's "Le Morte d'Arthur."* By A. T. Martin, M.A. (Macmillan.) (7) Byron's *Childe Harold's Pilgrimage.* By the Rev. E. C. Everard Owen. (Arnold.) (8) Bacon's *Essays.* By Alfred S. West, M.A. (Cambridge University Press.) (9) *Poems by Matthew Arnold.* By G. C. Macaulay. (Macmillan.) (10) Pope's *Essay on Criticism.* By J. Churton Collins, M.A. (Macmillan.) (11) *The Rime of the Ancient Mariner.* By H. Bates and P. A. Barnett. (Longmans.) (12) *King Richard II.* By C. H. Gibson, M.A. (Arnold's "School Shakespeare.") (13) Aytoun's *Burial-March of Dundee*, and *The Island of the Scots.* By W. K. Leask, M.A. (Blackie.)

(1) The fresh instalment of Mr. Verity's scholarly edition of *Paradise Lost* is distinguished by the high qualities we have previously noted in the earlier volumes. The long introduction, on which we have already commented, is here repeated; the new work consists of a series of clear, brief, and suggestive notes, and an excellent glossary. In an appendix, Mr. Verity discusses with his usual thoroughness and lucidity "the cosmology of the poem," "the character of Milton's Satan," and other interesting matters. His analysis of the deterioration of Satan's character leads him—rightly, we think—to the conclusion that Satan is not really intended to be the hero of the poem.

(2) A collection of twenty representative essays by Steele in his *Tatler*, with notes. The fame of Steele was long eclipsed by that of his great contemporary and partner. The late Professor H. Morley and John Forster were among the first to point out his merits, and this little book will do much good by enabling the general reader to see how great these merits were. But we think the editor overdoes it when, comparing him with Addison, he says that we find in Steele's writings "a spontaneity, a naturalness, a geniality," that "we miss in the other."

(3) Apart from the selected essays of Addison which Dr. Evans has edited with adequate, and perhaps more than adequate notes, we must acknowledge a very interesting introduction on the life and writings of the essayist, whose English style, by the way, he eulogizes without much discrimination.

(4, 5) We do not greatly care for Dr. Corson's "general introduction" to his Chaucer selections. He puts it to us, for instance, that Chaucer could hardly have written the "Canterbury Tales" if he had not held "positions in the Civil Service," and borne a part in "diplomatic missions." It is a somewhat unconvincing *propter hoc*. But the book will be found useful to a student of early King's English. Mr. Wyatt's edition, the Prologue and the pathetic story of Custance, is valuable for its helpful apparatus, which clearly locates the poet and his work in their historical and literary surroundings. The treatment of Chaucer's English is scholarly, but not more elaborate than is necessary for anyone who reads this author with a serious object.

(6) Malory is very good reading for the young, at any rate in the guise presented by Mr. Martin's selections; and we should especially recommend this volume as an aid to the formation of style. It will help to protect our English boys or girls from much of the later sophistication of their mother tongue.

(7) Here is *Childe Harold*, with four maps, sixty pages of introduction, and more than a hundred of notes and questions. The poem is a good one for its purpose. Byron's poetry is so supple and sinewy, his ideas are so full of culture, his aspirations so ennobling at his best, that if one is to study poetry at all for its effect on style and taste, one cannot do it much better than in *Childe Harold*.

(8) Mr. West has edited the *Essays* of Bacon with notes which are abundant, and a care which we should not like to call superfluous, though we doubt the advantage of so many footnotes to modernise the language of the text. Little is gained by interpreting "apt" as "fit," "stout" as "valiant," and "soberly" as "moderately." The edition is very thorough and practical.

(9) Mr. Macaulay renders good service to the young student of literature by this well-planned selection from the poems of Matthew Arnold. As he says, there is "too much thought, too much philosophy of life, in Arnold's poems to make them profitable reading for the very young"; but they are "admirably suitable" for the higher forms.

(10) Mr. Collins' edition of Pope's *Essay on Criticism* is very thorough, in judgment rather than in copiousness of material. It is an excellent literary primer, and deserves to be adopted as a text-book in every school and college where literature is taught in addition to the history of literature.

(11) In Messrs. Longmans' "English Classics" we have an interpreted, not to say a paraphrased, *Ancient Mariner*. Thus the sixth stanza—

"The ship was cheered, the harbour cleared,
Merrily did we drop
Below the kirk, below the hill,
Below the lighthouse top"—

is elucidated by Mr. Bates as follows:—"*Drop.* Used in a nautical sense,—move down the coast. *Below the lighthouse top* is, in this connexion, a little confusing. Probably the poet had in mind here the related idea of the lighthouse top dropping—vanishing—last of all, below the horizon." A little confusing, indeed! It did not occur to Mr. Bates that the kirk, hill, and lighthouse top were in ascending order of altitude, that the lowest of them vanished first, and the highest last, because the ship was not coasting but putting out straight to sea—"sinking," as Tennyson has it, "below the marge."

(12, 13) The last volumes of Mr. Arnold's "School Shakespeare," edited by Mr. Churton Collins, and of Messrs. Blackie's "English Classics," need no better recommendation than to say that they do not fall below the standard of their predecessors.

SCIENCE.

(1) *Elementary Non-Metallic Chemistry.* By S. R. Trotman, M.A. (Rivington, Percival, & Co.) (2) *Teachers' Handbook to the Royal Science Readers.* (Nelson & Sons.)

(1) In the first sentence of Mr. Trotman's book, "matter" is explained. In the second we are introduced to the seventy-odd elements. The third and fourth explain the meaning of element and compound. The first chapter ends on page 10, with some examples of chemical equations. The following chapters have such headings as "*Hydrogen.* Symbol H. Atomic Weight 1"; "*Ozone.* Symbol O_3. Molecular Weight 48"; and so on. Our readers can imagine the method of the book, which is based on the lectures given to unfortunate boys who are being crammed for the London Matriculation and South Kensington examinations. As long as the responsible authorities keep these examinations what they are, so long will books of this sort be written.

(2) The *Teachers' Handbook* is a guide for teachers in elementary schools who have to give object lessons. The Introduction contains excellent advice and suggestions to such teachers, and the lessons summarized (a hundred in number) are varied and well chosen. Useful information how to obtain specimens is everywhere given. The book is interleaved for the teacher's own notes.

FRENCH.

(1) *Selections for Sight Translation*, compiled by Mary Stone Bruce. (D. C. Heath & Co., Boston, U.S.A.) (2) *Exercises in French Composition*, based on Mérimée's "Colomba," by A. C. Kimball. (Same publisher.) (3) *Le Premier Livre de Français*, by Louise S. Hotchkiss. (Same publisher.) (4) *Lectures Courantes*, par C. Fontaine, B.L., L.D. (Same publisher.)

(1) Miss Bruce's *Selections for Sight Translation* contain nothing to differentiate them from any similar French reader for middle classes, and we are somewhat astonished that Miss Bruce should claim the copyright of the various pieces, inasmuch as a great number of them have already, to our knowledge, appeared in previously published readers. Be it as it may, the book is cheap, well put together, fairly easy, even interesting, on the whole, and may be expected to fulfil its purpose.

(2) Taking for granted that Mérimée's "Colomba" is in the hands of the pupils, studiously read and digested, these *Exercises in French Composition* may be found valuable. Being intended for second year's students, the style is easy, running generally in short sentences, affording good practice in words and construction as exemplified in Mérimée's delightful prose. A pupil who has read "Colomba," and can reproduce it according to the requirements of these exercises, will not have spent his second year's study of the French language in vain.

(3) It strikes us forcibly that the study of French in America is progressing by great strides, and bids fair to outpace the study of the same tongue in the mother country. Our American cousins are fast publishing books that are on a par with the best in the land, and *Le Premier Livre de Français*, of Louise S. Hotchkiss, is an excellent specimen of what can be produced in the Far West. In the hands of a bright, painstaking teacher, in front of a class of young pupils of either sex, this book will infallibly arrest the attention of youthful minds, awaken a lively interest, and foster good, useful progress in conversation and intelligent assimilation of words and phrases. It is based largely on constant repetitions, a running fire of short, pithy sentences on tangible objects, either depicted as in the book or on the blackboard, questions and answers given out singly or by the whole class, and helped by gestures appropriate to the words. After having gone through such a course, it will be hard, indeed, if a pupil, possessing a primary grammatical knowledge, is not able to use his or her tongue glibly, and be pleased to do it.

(4) *Lectures Courantes* is a good reader, with which we find only one fault, and that is that the pieces are not signed. Why? They are one and all interesting to a degree, and, from a literary point of view, it is always pleasing to know whose prose we are reading, for it greatly helps to differentiate the various styles, and gives a fair inkling as to the tendencies of the writers. In this book we have again a proof that colloquial French is *à l'ordre du jour* in American schools and colleges, for each piece is followed by a questionary in French, which will go a long way to impress on the mind, not only the story, but also the words and phrases which have served to build it up. Such a questionary may be used for colloquial practice, or for exercise in composition. The pieces which compose *Lectures Courantes* are well chosen, fairly easy, long enough to be complete in themselves, serious, that is instructive, unhackneyed, and up to date. Such pieces as "Au Benin," "A Timbictou," "La Reine Victoria," "Curiosités du Calendrier," are essentially *d'actualité.* The book ends with some "Exercices de Traduction," each based on the respective foregoing piece, which afford excellent scope for composition.

GERMAN.

(1) *Fritz auf Ferien.* Von Hans Arnold. Edited, with Introduction and Notes, by A. W. Spanhood. (Boston, U.S.A., D. C. Heath & Co.; London, Isbister & Co.) (2) *Materials for German Composition.* Based on Storm's "Immensee." By Professor J. T. Hatfield and Jessie Eversz, Ph.B. (Same publishers.)

(1) Herr A. W. Spanhood, the editor of the well-conducted and useful American-German periodical, *Germania*, has issued an edition of a story for children, *Fritz auf Ferien*, by the prolific and fairly popular novelist, Hans Arnold—a pseudonym for Frau Babette von Bülow. The account of how lively Fritz has spent his holidays at the house of an old bachelor is written in a plain, simple style, but there is not sufficient substance in it to be used as a text-book. It would be suitable enough, we think, for perusal by boys in the holidays—if boys ever read German books during the time legitimately devoted to idleness and play—but for class-reading the slight story does not possess sufficient literary merit. Another disadvantage is that the naughtiness of Fritz is much too mild and tame. There is not enough of the "bad boy element" in him to excite the interest and sympathy of English or American boys. The notes are short and, as a rule, sensible; but some of them seem to us superfluous.

(2) Professor Hatfield says, in the preface to his *Materials for Composition*, "The need of materials for German composition, based upon continuous texts, which should afford practice in the use of the actual idioms of the language, has long been felt"; and he has consequently selected Storm's well-known story—"Immensee." The slight *brochure* consists of eight pages of questions in German, five pages of English sentences, and sixteen pages of continuous English text. The plan of using a story as the background of composition may have its advantages, but we cannot approve of the Professor's choice for the purpose. Storm's "Immensee" is a poetical prose-idyl, and should be left to the perusal of readers of German after they have left the class-room, and are able to enjoy continuous readings in the foreign language.

MISCELLANEOUS.

The Poetical Works of James Thomson. A New Edition, with Memoir and Critical Appendices. By the Rev. D. C. Tovey, M.A. 2 vols. (Bell & Sons.)

These volumes form part of the re-issue of the publishers' excellent "Aldine Edition" of the British Poets, assuredly the best and most handy series of the English bards who have escaped from the fetters of copyright into the ample liberty of reprint. Their portable form, pleasant binding, clear type, good paper, admirable editing, scholarly memoirs, and modest price, all combine to make them welcome on the shelves of a genuine lover of literature, who does not value a book according to its convertibility into cash. Thomson is one of the gentle poets of nature, whose reputation does not diminish as time advances; and Mr. Tovey's memoir of a hundred pages is in every way delightful.

Sir Walter Scott's Woodstock. Edited by Bliss Perry, A.M. With a Preface by P. A. Barnett, A.M. (Longmans.)

This is, in fact, an American "text with notes"—the latter, fortunately, short and unobtrusive. Mr. Bliss Perry, A.M., tells us that "Scott is undoubtedly having his innings again." If so, *Woodstock* should score for a boundary hit, for it is in many respects one of the most notable of Scott's novels. When he wrote it, he was ruined; his wife lay dying; his spirit turned against his work, and Bannatyne was grumbling every day over its inferiority and dulness. He completed it in three months by a truly heroic effort; and at the end of the three months it had sold for £8,228.

Studies in Historical Method. By Mary Sheldon Barnes. (Isbister & Co.)

America is a larger country than England, and, to judge from some books by teachers that have recently come before us, they have more *time* there, to correspond. This novel and somewhat interesting volume on the method of teaching history suggests a wealth of leisure, on the part of both teachers and scholars, to which we are strangers. Part of it is a psychological inquiry into the historic sense of children, with the most elaborate analyses and charts of correct and incorrect answers to ingeniously devised problems. In this country we teach—in girls' schools—a subject called "civics." But how many of our students could tell "when they get through, ... why they are Democrats, Republicans, Mugwumps, Socialists, or Populists?" They can in Brooklyn. There, too, the children arrive at school in time to read the daily papers, and write epitomes of the news of the day on

the black-board. The book, however, contains some useful suggestions about the method of utilizing local history; biography, and maps, and on the method of making notes and keeping them. In spite of some extravagancies, it is certainly suggestive.

A History of England. By Charles Oman. 2 vols. (Edward Arnold.)

This is a third edition of Mr. Oman's well-known History of England (or, rather, of Great Britain, Ireland, and the British Colonies and Dependencies). It is an incidental history of conspicuous events, and from that point of view it is certainly an able and even a masterly re-statement of the British annals. Such a re-statement is quite enough to occupy 750 pages, without much in the way of philosophic deduction, or an estimate of popular development and progress. Within his chosen limits, Mr. Oman has given us an admirable summary for school use or general reading.

Stray Thoughts for Mothers and Teachers. By Lucy H. M. Soulsby. (Longmans.)

This is an enlarged reprint of the author's "Stray Thoughts for Teachers," which we noticed when it appeared. Miss Soulsby's "thoughts" are rather gentle and suggestive than profound or original. They range over a wide area, from "The Religious Side of Secular Teaching" and "The Salic Law" to "School Work" and "Home Education." Many readers will be interested in these simple essays.

Steps to the Temple of Happiness: Thirty True Moral Stories for the Young. By Henry Smith. (Sonnenschein.)

This is a handsome quarto volume of simple stories, with "hints to parents on the education of children." We turn over the pages and find that "little boys should be encouraged by their parents to do what their Nature prompts them." That prompts one to read more; and one soon finds that there is a good deal that is worth reading. Opposite the title-page we have the handsome head and white beard of the author himself.

The Young Clanroy: a Romance of the '45. By the Rev. Cosmo Gordon Lang. (Smith, Elder, & Co.)

A capital story, invented years ago for "a party of schoolboys in the dusk of summer evening," written out hurriedly, and printed by request. It is an excellent romance, whether for boys or for girls, a romance of a century and a half ago, with plenty of adventure and variety, fighting and loyalty, a little mystery, and a little quiet love-making. Mr. Lang's friends were judicious; this breezy optimistic narrative was worth printing; and for the school library we can recommend it very heartily.

Christian Men of Science. (Religious Tract Society.)

A dozen biographies, by various authors, and passable portraits, of Bacon, Pascal, Boyle, Newton, von Haller, Abercrombie, Brewster, Sedgwick, Faraday, Simpson, George Wilson, and Clerk Maxwell. There is a sensible introduction by Dr. Gladstone.

The Writings of St. Patrick, the Apostle of Ireland. By Charles H. H. Wright, D.D. (Religious Tract Society.)

A third edition of Dr. Wright's translation, revised and annotated, in the "Christian Classics Series." The authentic writings of Patrick, the Breton missionary to Ireland, are his Hymn, Confession, and Epistle to Corotius, but there are a number of dubious works attributed to him, all of which appear in this welcome little volume.

Prayer in the Four Gospels. By W. E. Winks. (Baptist Tract Society.)

This is a handy synopsis of references to prayer and the effects of prayer in the four canonical gospels. The total number of references quoted is 186, of which 83 occur in St. Luke.

When were our Gospels written? An Argument by Constantine Tischendorf. With a Narrative of the Discovery of the Sinaitic Manuscript. (Religious Tract Society.)

A "Present Day Primer," sufficiently described in the title. Tischendorf holds it established that the Four Gospels existed in a Syriac and in a Latin version as early as the middle of the second century; from which he deduces powerful arguments for the primitive canonicity of the existing texts.

"Heath's Pedagogical Library."—*Child Observations.* Edited by Miss Ellen M. Haskell. (Isbister.)

With our mind still full of Professor Sully's delightful book, "Studies of Childhood," we opened this volume with interest and hope. We found to our astonishment that it consists wholly of 1,208 short anecdotes to prove that children are imitative. One is as good as another; we select a specimen at random:—"No. 335. *Clarence.* Age about four years. Clarence, hearing his father say 'good-day' to me, said 'good-day.'" There are some 250 pages of this sort of stuff, without comment. The collection was made by the students in the State Normal School at Worcester, Mass. The astonishing thing is that the Principal, Mr. E. H. Russell, instead of advising the suppression of such a silly book, has actually written a long introduction in its praise. It is enough to make the friends of the training of teachers despair. No one has ever doubted that children (and monkeys) are imitative. Nor has any one doubted that in the psychology of childhood imitation must be taken into account. But to write a large book merely to prove the fact does seem, to say the least, unnecessary. We have found one story that seems full of terrors for the future. "No. 181. *Willard.* Age two years ten months. Willard was sitting in his high chair, very still. I said, 'Will, what are you doing?' 'You mustn't talk,' he said. 'I'm in the Normal School.' Pretty soon he added: 'Mr. R—— said for me to write suggestions.'"

Ages Ago; the Ancestry of Animals. By Edith Carrington. (Bell & Sons.)

"The object of this little volume is to give young people a first idea of the great antiquity of animal life on the earth, and to show the essential parts that animals have played in the history of the world." So long as the writer confines herself to a description of "prehistoric animals" her book is both interesting and useful. It is published, however, in the interests of the "Humanitarian League." Warmly as we sympathize with the beneficent objects of this Society, we cannot think these are likely to be really advanced by such exaggerative, even morbid, sentimentality and such false science as distinguish this volume. The unscientific account of the Genesis, of Mount Ararat, the attempts to point a moral by contrasting the cruelty of man with "the gentle hand of Nature," when

> ". . . Nature, red in tooth and claw
> With ravine, shrieks against his creed,"

cannot really aid either religion or morality. Nor is it convincing to assert that, "if dogs and men are to improve, they must leave behind them the pleasures and pursuits of savages and wolves," even though this be fortified by an example of a collie-dog who "improved" so much that it escorted the rats off the premises; it was not so unkind as to bite them. But how if the rats return? Has the writer ever heard of the fate of Bishop Hatto, or of the present doings of the Australian rabbit? Are we to be "improved" off the face of the earth to make room for these creatures?

LITERARY GOSSIP.

In the *Cornhill Magazine* for April, Mr. Leslie Stephen has a painfully interesting paper on the financial troubles of Sir Walter Scott. We have noticed above a reprint by Messrs. Longmans of the story of "Woodstock," which was written by Sir Walter at the crisis of his disaster, aggravated, as it was, by the death of Lady Scott.

Mr. S. R. Gardiner is writing a volume on the "Gunpowder Plot," in which he criticises the recent monograph of Father Gerard.

In *Macmillan's* for April there is a pleasant account of a journey in the Holy Land by Edward Lear, the well-known traveller and delineator of animals. His "Book of Nonsense" went through twenty-six editions.

In the new volume of the "Dictionary of National Biography," Mr. Henry Craik, C.B., has a careful appreciation of one of the best educational administrators of the mid-century, Lord Sandford.

The honorary degree of M.A. has been conferred by the University of Oxford on Mr. Henry Frowde, Publisher to the University, and Mr. Horace Hart, Controller of the University Press.

The late Professor Sylvester was the author of the Theory of Reciprocants. His great reputation rests especially upon his quality of imagination in the field of mathematical research.

We used to be told that "the English language contains about 100,000 words." In the new number of the Clarendon Press *Periodical*, we have some interesting facts regarding the progress of the New English Dictionary. In the first five letters, now finished, there are 66,254 "main words," and rather more than thirteen thousand "subordinate words." Adding "special combinations," there are 89,591 words. Again, taking the total of main words, 47,786 of them are "current," 15,952 "obsolete," and the remainder "alien." Considering that twenty-one letters of the alphabet remain to be dealt with, it is clear that the 100,000 was not even an approximation to the truth.

Professor James, a Professor of psychology at Harvard University, and a brother of Mr. Henry James, has written a volume of essays in popular philosophy, which Messrs. Longmans will publish here. The title of the volume is "The Will to Believe." Dr. James also asks the old question, "Is Life Worth Living?" but writes on it in a fresh vein. Other subjects are—"Great Men and their Environment," the "Importance of Individuals," and "What Psychical Research has Accomplished."

A new edition—the 13th—of the "Oxford Shorthand," with improvements, is now in preparation. The Oxford Shorthand Company are also preparing entirely new series of exercises, printed on paper specially ruled with faint blue lines, and are adding to their stock of diagrams.

We have received the following publications:—

A Directory of Titled Persons, 1897 (Whitaker), designed as a companion to "Whitaker's Almanack"—a most handy and comprehensive volume of about four hundred pages, arranged alphabetically, which will be found extremely serviceable for reference. Every one with a handle to his name, whichever side of him the handle comes, is in evidence here.

The Excelsior Cookery Time-Table (Bacon & Co.)—adapted for use in any course on cookery; a visitor can, at a glance, see from which school the children are attending, the "course" they are preparing, and the actual lesson then in progress.

A Dictionary of the French and English Languages, by F. E. A. Gasc (Pitmans)—Part I. of a new edition.

Muret-Sanders' Encyklopädisches Wörterbuch (Grevel)—Part I.

Le Français, No. 109—the lively organ of the Société Nationale des Professeurs de Français en Angleterre, containing lists of members, the result of the last competition, &c.

The Books of the Bible: Ruth and *Samuel I.*, by the Rev. A. E. Hilliard, M.A., and *St. Mark*, by the Rev. P. W. H. Kettlewell, M.A. (Rivington, Percival, & Co.)—English text and notes, with maps.

Word-Building, Derivation, and Composition, by Robert S. Wood, Part V. (Macmillan)—simple exercises arranged for class use.

Everybody's Guide to Photography (Saxon & Co.).

COLLEGE OF PRECEPTORS.

PROFESSIONAL PRELIMINARY EXAMINATION—PASS LIST.

March, 1897.

The Supplementary Examination by the College of Preceptors for Certificates recognised by the General Medical Council, the Incorporated Law Society, the Royal College of Veterinary Surgeons, the Pharmaceutical Society of Great Britain, and other bodies, was held on the 2nd, 3rd, and 4th of March, in London, and at four other local centres, viz., Birmingham, Bristol, Leeds, and Liverpool. The following candidates obtained Certificates:—

First Class.

Pass Division.

Elder, A. G. V. Howard, A.

Second Class.

First Division.

Arber, G. N. G.	Goldie, W. L. M.	Snellgrove, C. H.
Brayne, R. E.	Grahame-White, M.	Thacker, H.
Clifford, S.	Jones, H. O.	Tyler, C.
Forster, A. F.	Lawry, R. C.	Welham, G. S.

Second Division.

Adam, G. H.	Higson, A. J.	Stoney, J. J.
Benson, B. H.	Hodgson, A. W. B.	Tadman, S.
Brogden, R. J.	Hulme, P. G.	Theobalds, R. O. H. P.
Brown, A. G.	James, N.	Thomson, H.
Collins, R. T.	Jays, T.	Vidal, H. F.
Dick, W. D.	Jones, E. S.	Weekes, H. E.
Duske, H. J.	Lloyd, M. A.	Williams, W. H.
Elstob, H. G.	Moon, A. T.	Wood, C. D.
Gromitt, J. W.	Rudkin, G. F.	
Hanrott, F. G.	Scott, P.	

Third Division.

Bartlett, O. M.	Harvey, C. W. C.	Roberts, F. E.
Bateman, G. S.	Hawkes, A. B.	Sargent, R. J.
Blaxley, T. T.	Johnson, J. C.	Seymour, W.
Brown, C. F. M.	King, W. A. D.	Stevens, W. S.
Canton, E. F.	Litt, W. G.	Tilley, J. L. O.
Carter, C. F. B.	Marshall, O.	Turner, H. S.
Dodds, A. W.	Neil, W. H.	Waid, G. H.
Dunkley, C.	Nicoll, C. V.	Walsh, G. D.
Evans, F. J. D.	Oliver, E. S.	Watson, A. H.
Fearnside, J. A.	Platt, J. E.	White, N.
Forster, H. F.	Richardson, A. H. S.	Zachary, S. J.
George, H. H. S.		

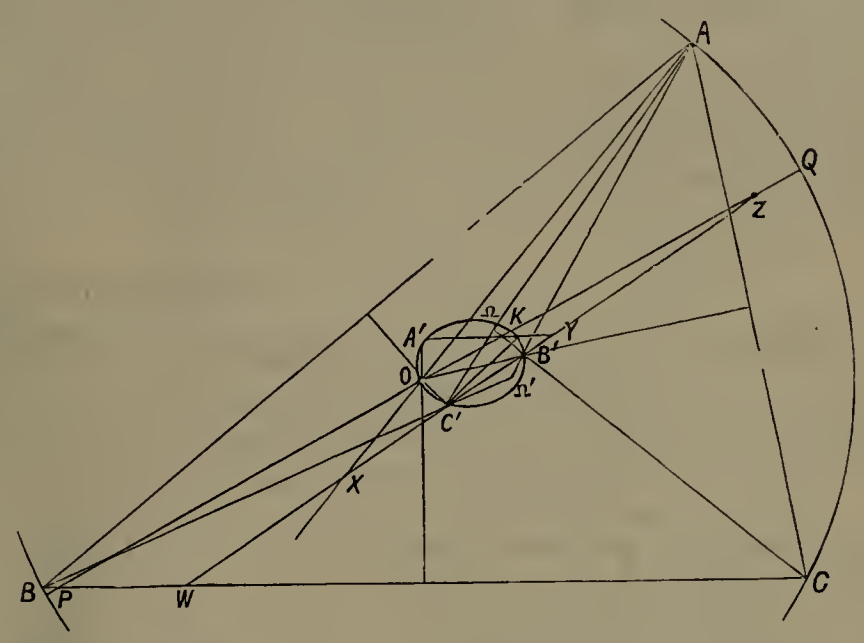
The following qualified for Registration as Medical Students, but did not pass in all the subjects required for a Second Class Certificate:—

Gillespie, W. S.	Gunning, C. J. H.	Thompson, A. J.
Gregory, A.	Schonberger, E.	

MATHEMATICS.

13311. (Professor Schwatt.)—The Simson-line belonging to one point of intersection of Brocard's diameter of a triangle with the circumcircle of this triangle is either parallel or perpendicular to the bisector of the angle formed by the side BC of the triangle ABC and the corresponding side B′C′ of Brocard's triangle.

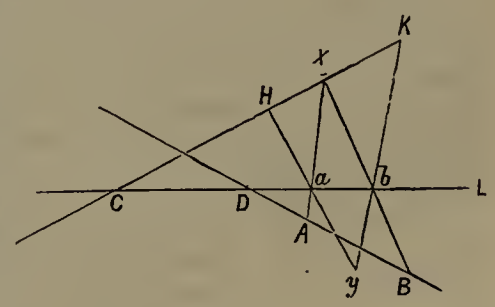
Solution by Professor Sanjána.



Lemma.—The angle made with any side of a triangle by the Simson-line of a point with regard to the triangle is half of the angle between the diameters drawn through the point and through the opposite vertex of the triangle. This may be proved by Euclid or elementary analytical geometry. Thus, in the accompanying figure, the Simson-line of P makes with BC an angle $= \frac{1}{2}$AOQ; hence, to prove it parallel to the bisector of the angle between BC and B′C′, we have to show that C′WC = AOQ. This can be done by trilinears; the equations of the containing sides being well known. The process, though straightforward, is tedious. [The rest in Volume.]

13368. (W. J. Dobbs, M.A.)—A, B, H, K are four fixed points, and L a fixed straight line. Any point X is taken in HK, and AX, BX meet the line L in a, b respectively; Ha, Kb intersect in Y. Prove that, as X traces out the line HK, Y traces out a straight line which passes through the intersection of AB, ab.

Solution by Professor A. Droz-Farny, W. C. Stanham, *and others.*



Lorsque X se meut sur HK, AX et BX décrivent deux faisceaux perspectifs; a et b décrivent donc sur L deux ponctuelles homographiques ayant un point double en D, point d'intersection de L et AB. Il en résulte que les faisceaux Ha et Kb sont homographiques et que le lieu de Y est une courbe passant par D. Lorsque X coincide avec C, point d'intersection de HK et L, les deux rayons homologues Ha et Kb coincident avec la ligne des centres HK; les deux faisceaux Ha et Kb sont donc perspectifs, et le lieu de y est une ligne droite passant par D.

13359. (C. E. Hillyer.)—If the polar of a point O with respect to a conic meet any pair of conjugate diameters in F and f, and EOe be drawn antiparallel to Ff with respect to the angle FCf meeting CF in E, and CF in e, prove that F, E and f, e are pairs of inverse points with respect to the director circle; hence show (1) that the circumcircle of a self-conjugate triangle is orthogonal to the director circle; (2) by taking O on the curve, that tangents at right angles intersect on the director circle. Examine the special cases of the parabola and rectangular hyperbola.

Solution by the Proposer.

Let PP′, DD′ be the conjugate diameters. Draw OK, Ok parallel to CD, CP, respectively. Then

$$\frac{\text{CF}}{\text{C}f} = \frac{\text{C}e}{\text{CE}} = \frac{\text{OK}}{\text{EK}};$$

therefore $\quad \text{CF}\,.\,\text{EK} = \text{C}f\,.\,\text{OK} = \text{C}f\,.\,\text{C}k = \text{CD}^2;$

$\therefore$ CF . CE

$= \text{CF . EK} + \text{CF . CK}$

$= \text{CD}^2 + \text{CP}^2$

$= \text{CA}^2 + \text{CB}^2 = \text{R}^2$,

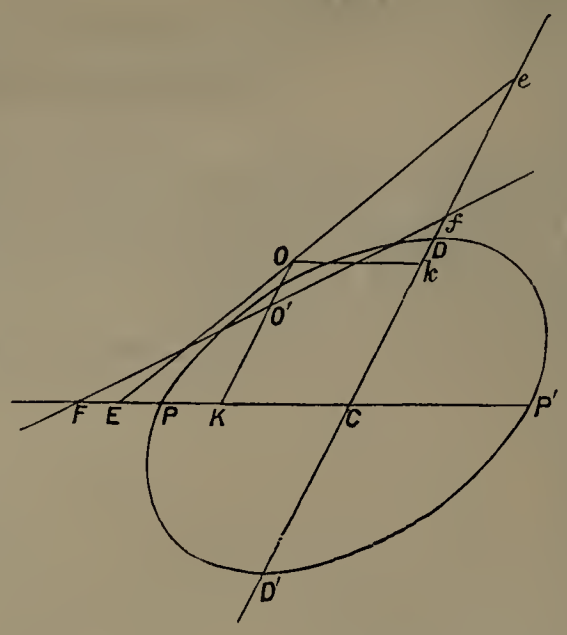
where R is the radius of the director circle; therefore F, E are inverse points with respect to the director circle, and similarly for f, e.

(1) If OK meets Ff in O′, the triangle OO′F is self-conjugate with respect to the conic; but, since

$\angle \text{O'FE} = \text{O}ef = \text{EOO'}$,

the circle OO′F passes through E, and is orthogonal to the director circle, since

$\text{CE . CF} = \text{R}^2$.



[The rest in Volume.]

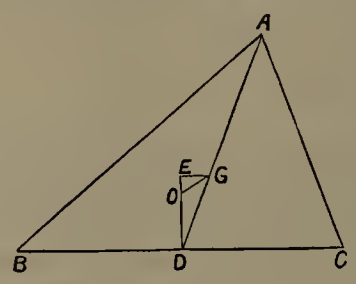
13371. (R. W. D. Christie.)—If G, O, a, b, c are the centroid, circumcentre, and sides of any triangle, prove that

$$(1)\quad 36\text{GO}^2 = 9a^2 \cot^2 \text{A} + 5a^2 - 4b^2 - 4c^2;$$

and (2), if the triangle be right-angled, GO = R/3.

Solution by W. E. Jeffares, B.A.; H. W. Curjel, M.A.; *and others.*

Let D be the middle point of BC, and E the foot of the perpendicular from G on DO. Then



$$\begin{aligned}
36\text{GO}^2 &= 36\text{OD}^2 + 36\text{GD}^2 - 72\text{DO . DE} \\
&= 9a^2 \cot^2 \text{A} + (2b^2 + 2c^2 - a^2) \\
&\qquad - 72 \cdot \frac{a \cos \text{A}}{2 \sin \text{A}} \cdot \tfrac{1}{3} b \sin \text{C} \\
&= 9a^2 \cot^2 \text{A} + 2b^2 + 2c^2 - a^2 \\
&\qquad - 12bc \cos \text{A} \\
&= 9a^2 \cot^2 \text{A} + 2b^2 + 2c^2 - a^2 - 6\,(b^2 + c^2 - a^2) \\
&= 9a^2 \cot^2 \text{A} + 5a^2 - 4b^2 - 4c^2;
\end{aligned}$$

$\therefore$ when A is a right angle, $36\text{GO}^2 = 5a^2 - 4a^2 = 4\text{R}^2$;

$\therefore$ GO = R/3.

13297. (Rev. T. Wood Robinson, R.N.)—Prove that a rhumb line may be projected into an equiangular spiral; find its equation and deduce the formula $\tan \text{course} = \dfrac{\text{diff. long.}}{\text{mer. diff. lat.}}$.

Solution by the Proposer.

If we project stereographically from one of the poles, the meridians become equally inclined straight lines meeting in a point—other pole—and, since angles are unaltered by this projection, the projection of the rhumb line must make equal angles with these straight lines, and will therefore be an equiangular spiral. Let (L, l) and L′l' be longitude and latitude of two places joined by rhumb line, and let $r = c\epsilon^{\theta \cot \alpha}$ be equation to spiral, where α will be the course on rhumb line; then, from progression, we have

$$\text{D} \tan \tfrac{1}{2}\left(\tfrac{1}{2}\pi + l\right) = c\epsilon^{\text{L} \cot \alpha}, \quad \text{and} \quad \text{D} \tan \tfrac{1}{2}\left(\tfrac{1}{2}\pi + l'\right) = c\epsilon^{\text{L}' \cot \alpha};$$

therefore
$$\frac{\tan \frac{1}{2}\left(\frac{1}{2}\pi + l\right)}{\tan \frac{1}{2}\left(\frac{1}{2}\pi + l'\right)} = \epsilon^{(\text{L} - \text{L}') \cot \alpha}.$$

Taking logs,
$$\tan \alpha = \frac{\text{L} - \text{L}'}{\log\left(\frac{1}{4}\pi + \frac{1}{2}l\right) - \log\left(\frac{1}{4}\pi + \frac{1}{2}l'\right)};$$

therefore
$$\tan \text{course} = \frac{\text{diff. long.}}{\text{mer. diff. lat.}}.$$

[See Chambers' *Practical Mathematics*, Edit. 1894, p. 470, art. 927.]

13322. (Rev. J. Cullen, B.A.)—Prove that

$$\int_0^{\text{K}} \text{cn}^2 u\,(\text{cn}^2 u\, \text{dn}^4 u + 2k'^2 \text{sn}^2 u)\, du \,/\, \text{dn}^4 u$$
$$= \left\{2(1 + k^2)\,\text{E} - 2\text{K} - k^2\text{K} + 3k^4\text{K}\right\} / 3k^4.$$

Solution by H. W. Curjel, M.A.; Professor Chakrivarti; *and others.*

Write s, c, d for sn u, cn u, dn u.

Then $k^2 \dfrac{d}{du}(scd^m) = k^2 (c^2 - s^2)\, d^{m+1} - mk^4 s^2 c^2 d^{m-1}$.

[The rest in Volume.]

13390. (D. Biddle.)—Construct the triangle of which AD, BE, CF are the unknown perpendiculars, having given the three products BC . CD, CA . AE, AB . BF.

Solution by Morgan Brierley.

A, E, D, B are points in the arc of a circle; therefore

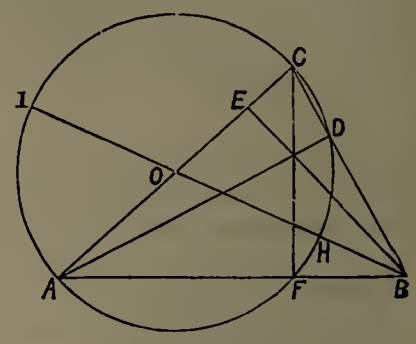
$$\text{AC . CE} = \text{BC . CD} = a,$$

and
$$\text{AC . AE} = b;$$

hence $\text{AC}(\text{AE} + \text{CE}) = a + b = \text{AC}^2$; therefore AC is given. Again,

$$\text{AC}(\text{AE} - \text{CE}) = a - b;$$

$$\therefore\ \text{AE} - \text{CE} = (a - b)/\text{AC},$$



and AE, EC are given. With centre O, the middle of AC, describe a circle which will pass through D and F, and draw BHOI intersecting it in H and I; then BH . BI = BD . BC = BF . BA = c; IH = AC, being known, BH becomes known, and, since $\text{AB}^2 - \text{BC}^2 = \text{AE}^2 - \text{EC}^2$, the point B is found, and the construction manifest.

[The rest in Volume.]

4440. (Professor Wolstenholme, M.A., Sc.D.)—If $x_1, x_2, \ldots x_n$ be connected by the equation

$$x_1^2 + x_2^2 + \ldots + x_n^2 - x_1x_2 - x_2x_3 + \ldots - x_{n-1}x_n = 1,$$

show that the maximum and minimum values of $x_1^2 + x_2^2 + \ldots x_n^2$ will be the values of $\left(1 + \cos \dfrac{r\pi}{n+1}\right)^{-1}$, where r has all integral values from 1 to n.

Solution by Rev. J. Cullen, B.A.

Let $u = \Sigma x_1^2$, then $du = 2\Sigma x_1\, dx_1 = 0$, or

$$\Sigma x_1 dx_1 = 0 \quad \ldots\ldots\ldots\ldots (1),$$

also
$$2\Sigma x_1 dx_1 - d\Sigma x_1 x_2 = 0 \quad \ldots\ldots\ldots\ldots (2).$$

Hence, employing the usual method undetermined multipliers, we get $u = 2/(\mu + 2)$, where μ is a root of the continuant,

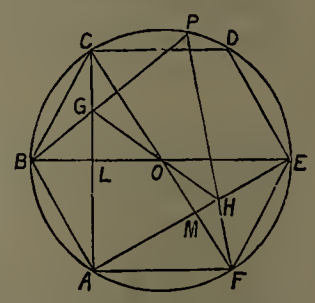
$$\begin{vmatrix}
\mu, & 1, & 0, & 0, & 0, & \ldots\ldots & \\
1, & \mu, & 1, & 0, & 0, & \ldots\ldots & \\
0, & 1, & \mu, & 1, & 0, & \ldots\ldots & \\
\ldots & \ldots & \ldots & \ldots & \ldots & \ldots\ldots & \\
0, & 0, & \ldots\ldots & 0, & 1, & \mu, & 1 \\
0, & 0, & \ldots\ldots & 0, & 0, & 1, & \mu
\end{vmatrix} = 0,$$

But, by Quest. 7574, Vol. xli., μ is of the form $2 \cos \dfrac{r\pi}{n+1}$; therefore $u = \left(1 + \cos \dfrac{r\pi}{n+1}\right)^{-1}$ as stated.

13356. (Professor Percépied.)—Par le centre d'un hexagone régulier ABCDEF, on mène une sécante quelconque qui coupe en G, H les diagonales AC, AE. Trouver le lieu du point d'intersection des droites BG et FH.

Solution by Professor Anderson; W. J. Greenstreet, M.A.; *and others.*

B and F are the images of O in the sides AC and AE. Hence, if P be the point of intersection, the path of a ray of light from P through O after reflection at both mirrors will be PHOGP. But the deviation is twice the angle between the mirrors. Hence the angle BPF is 60°, and the locus is the circumscribing circle of the hexagon.



[Professor A. Droz-Farny sends an alternative solution as follows:—Considérons l'hexagone ACFPBE. AC et PB se coupent en G, CF et BE se coupent en O, FP et AE se coupent en H. G, O, H étant en ligne droite, l'hexagone est inscrit dans une conique bien déterminée par les cinq points A, C, F, B, E. Le lieu de P est donc bien la circonférence circonscrite à l'hexagone régulier.]

13192. (Professor Morley.)—A. can dig a field of potatoes in one hour, and pick the roots from the plants in two hours. B. can dig that field in three hours and pick it in four. C. can dig in five hours and pick in six. What is the least time in which all working together can dig and pick the field? Is a general formula known or obtainable for the least time in which m men can do n things, where no two things can be profitably done simultaneously by the same man?

Solution by Rev. T. Roach, M.A.; Prof. Krishnamacharry; *and others.*

A. has a greater advantage over the others in digging than in picking; therefore, as they cannot together pick faster than he digs, let him dig the whole.

Then, if x be the whole time, we have

$$\tfrac{1}{2}(x - 1) + \tfrac{1}{4}x + \tfrac{1}{6}x = 1; \qquad \therefore\ x = 1\tfrac{7}{11} \text{ hours.}$$

[Let a_1, b_1, x_1, y_1 be respectively the time in which A. can dig the

whole field, the time in which he can pick the whole, the actual proportion of it he digs, the actual proportion of it he picks; and let a_2, b_2, x_2, y_2 be the similar quantities of B., and so on. Then we have

$$x_1+x_2+x_3 = 1, \quad y_1+y_2+y_3 = 1,$$

and $a_1x_1+b_1y_1 = a_2x_2+b_2y_2 = a_3x_3+b_3y_3$

$$= \text{the time occupied by the entire process,}$$

which must be a minimum.

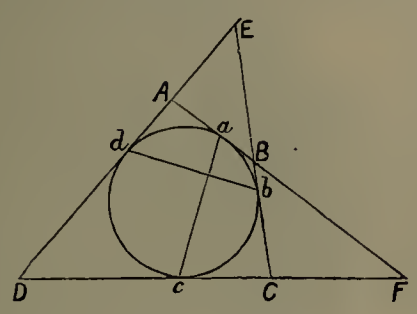
[The rest in Volume.]

13401. (Professor Neuberg.)—Les côtés AB, BC, CD, DA d'un quadrilatère ABCD touchent une circonférence aux points a, b, c, d. Démontrer que

$$\frac{(ac)^2}{(bd)^2} = \frac{\text{AD.BC}}{\text{AB.DC}}.$$

Solution by G. Heppel, M.A.; Professor A. Droz-Farny; *and others.*

Let the sides in order be h, k, l, m. Then, in the figure, since the circle is escribed to EAB,



$$bd = 2h \sin \tfrac{1}{2}\text{A} \sin \tfrac{1}{2}\text{B},$$

where A, B are angles of the quadrilateral. Similarly

$$ac = 2k \sin \tfrac{1}{2}\text{B} \sin \tfrac{1}{2}\text{C};$$

$$\therefore \quad \sin \tfrac{1}{2}\text{A}/\sin \tfrac{1}{2}\text{C} = k\,.\,bd/h\,.\,ac.$$

Now

$$\text{BD}^2 = (h-m)^2 + 4hm \sin^2 \tfrac{1}{2}\text{A}$$
$$= (k-l)^2 + 4kl \sin^2 \tfrac{1}{2}\text{C}.$$

Also $\quad h-m = k-l; \quad \therefore \quad \sin^2 \tfrac{1}{2}\text{A}/\sin^2 \tfrac{1}{2}\text{C} = kl/hm,$

whence $\quad (ac)^2/(bd)^2 = km/hl.$

QUESTIONS FOR SOLUTION.

13461. (The late Professor Sylvester.—Feb. 22, 1897.)—Suppose $u_{x+1} = u_x - (u_x)^2$; prove that, if u_0 is less than unity, $u_\infty = 0$; and show more generally that, if ϕ be such an algebraical form of function that ϕx and $x - \phi x$ must each lie between 0 and 1, when x does so, then, if $u_{x+1} = \phi u_x$, and u_0 lies between 0 and 1, $u_\infty = 0$.

13462. (Professor Crofton, F.R.S.)—Prove that $10^5 + 10$ is divisible by $9^3 + 1$.

13463. (Professor Sir Robert Ball, F.R.S.)—If $x_1, x_2, \ldots x_n$ and $\dot{x}_1, \dot{x}_2, \ldots \dot{x}_n$ be the generalized coordinates of a system whose kinetic energy is T, show that T must always satisfy an identical equation, which, in the case where screw-chain coordinates are used, assumes the simple form

$$\dot{x}_1 \frac{d\text{T}}{dx_1} + \dot{x}_2 \frac{d\text{T}}{dx_2} + \ldots + \dot{x}_n \frac{d\text{T}}{dx_n} = 0.$$

13464. (Professor A. Droz-Farny.)—Dans un triangle ABC on considère la circonférence Δ tangente en A à AB et qui passe par C et la circonférence Δ' tangente en A à AC et qui passe par B. Une transversale variable menée par A coupe Δ en α et Δ' en α'. Quel est le lieu du point milieu de $\alpha\alpha'$?

13465. (Professor H. Langhorne Orchard, M.A., B.Sc.)—If ABCD is a quadrilateral inscribed in a circle, and AB, BC, CD, DA be denoted by a, b, c, d, respectively, show that AC. BD $= ac + bd$, and explain the two products on the right-hand side of the equation.

13466. (Professor M. J. M. Hill, M.A., D.Sc., F.R.S.)—Give proofs of (1) the 9th; (2) the 16th, with the 14th as corollary; (3) the 22nd; (4) the 23rd propositions of the fifth book of Euclid, based on Euclid's test for equal ratios, to replace his demonstrations, which are based on his test for unequal ratios; and hence show that all the propositions in the sixth book of Euclid can be proved without any reference direct or indirect to his test for unequal ratios.

13467. (The late Professor Wolstenholme, M.A., Sc.D.)—In a triangle ABC, the straight lines bisecting the external angles at A, B, C meet the circle ABC again in a, b, c; prove that the area of a triangle having sides whose lengths are equal to Aa, Bb, Cc will have the area

$$2\text{R}^2 \sin \tfrac{1}{2}(\text{B}-\text{C}) \sin \tfrac{1}{2}(\text{A}-\text{B}) \sin \tfrac{1}{2}(\text{A}-\text{C}), \quad (\text{A} > \text{B} > \text{C}),$$

and that its circumscribed circle will be equal to the circle ABC. Also the area of the triangle whose corners are the circumcentre, incentre, and orthocentre of ABC is the same; and, if one of the angles A, B, C be 60°, this triangle and the former will be equal and similar. In general, the radius of the circle which passes through the circumcentre, incentre, and orthocentre bears to R the radius of the circumscribed circle the ratio

$$\{(1-8\cos\text{A}\cos\text{B}\cos\text{C})(3-2\cos\text{A}-2\cos\text{B}-2\cos\text{C})$$
$$[(1-\cos\text{A})(1-\cos\text{B})(1-\cos\text{C})] - \cos\text{A}\cos\text{B}\cos\text{C}\}$$
$$: 4\sin\tfrac{1}{2}(\text{B}-\text{C})\sin\tfrac{1}{2}(\text{A}-\text{B})\sin\tfrac{1}{2}(\text{A}-\text{C});$$

this ratio becomes 1 : 1, when

$$(1-2\cos\text{A})(1-2\cos\text{B})(1-2\cos\text{C}) = 0,$$

or when

$$(1-2\cos\text{A})(1-2\cos\text{B})(1-2\cos\text{C})$$
$$+ (1-8\cos\text{A}\cos\text{B}\cos\text{C})(3-2\cos\text{A}-2\cos\text{B}-2\cos\text{C}) = 0,$$

but is otherwise always > 1 : 1. Expressing the square of this ratio in terms of cos A, cos B, cos C only ($2\cos\text{A} = x$, $2\cos\text{B} = y$, $2\cos\text{C} = z$), we get the identity

$$(1-xyz)(3-x-y-z)^2 - (2-x-yz)(2-y-zx)(2-z-xy)$$
$$\equiv (1-x)^2(1-y)^2(1-z)^2.$$

[When x, y, z have the meanings already assigned them, the two members are always positive (or zero); is this true for all values of x, y, z?]

13468. (Professor Neuberg.) — On considère les quadriques qui passent par une conique donnée Σ et par deux points donnés A, B. Trouver le lieu du centre et le lieu des extrémités du diamètre qui passe par le centre de Σ.

13469. (Professor Sanjána.)—The cosine-circle of a triangle cuts the sides BC, CA, AB, respectively, in α and α', β and β', γ and γ'; CQ, AR, BS are drawn respectively perpendicular to Bβ', Cγ', Aα'. Prove that (1) cot BAQ + cot CBR + cot ACS = 2 cot ω; (2) the distances of Q, R, S from the positive Brocard-point are respectively proportional to

$$\operatorname{cosec}\text{B}\cos\text{C}/(\operatorname{cosec}^2\text{B} + 2\cot\text{B}\cot\text{A} + \cot^2\text{A})^{\frac{1}{2}},$$
$$\operatorname{cosec}\text{C}\cos\text{A}/(\operatorname{cosec}^2\text{C} + 2\cot\text{C}\cot\text{B} + \cot^2\text{B})^{\frac{1}{2}},$$
$$\operatorname{cosec}\text{A}\cos\text{B}/(\operatorname{cosec}^2\text{A} + 2\cot\text{A}\cot\text{C} + \cot^2\text{C})^{\frac{1}{2}};$$

and that (3) similar results hold with regard to the feet of the perpendiculars from A, B, C on Bβ, Cγ, Aα, and the negative Brocard-point.

13470. (Professor W. Booth.)—In Aldis's *Algebra*, p. 353, a table is given of all the possible values of p, q, r, s, t which occur in calculating the coefficient of x^7 in $(1+2x+3x^2+4x^3+5x^4)^5$; you are required to correct this table, and to show that the answer is 10040.

13471. (Professor Shields, M.A.)—Four brothers, A., B., C., and D., bought 1350 acres of land for \$4672·50; A. and B. took $\frac{1}{3}$ of the land, paying \$2172·50 for it, of which A. paid \$693·75 and B. paid the balance. C. and D. took the remaining land, paying the balance of the money, of which C. paid \$875 and D. paid the balance, and, by reason of the difference in value of the lands, A. paid *one* dollar per acre more than B., and C. paid *one* dollar per acre more than D. How much did each pay per acre, and how much land did each get?

13472. (Editor.)—Through four given points, to draw a conic which shall intercept on a given line a chord of given length.

13473. (D. Biddle.)—In Sir G. B. Airy's *Autobiography*, p. 318, under the year 1877, he says: "A large direct-vision spectroscope has been quite recently made by Mr. Hilger under Mr. Christie's direction on a new plan, in which either great dispersion or great purity of spectrum is obtained by the use of 'half-prisms,' according as the incident pencil falls first on the perpendicular or on the oblique face"; and he adds, "the dispersion with two half-prisms (in train) is nearly double of that given by the large ten-prism spectroscope." Explain this by reference to the mathematical laws of refraction.

13474. (W. J. Greenstreet, M.A.)—A, B, C are co-normal points (P) on a parabola, meeting curve again in A′, B′, C′. Call the circles ABC, A′B′C′, S and S′. Find the locus of P, (1) if centre of S′ is on axis of x (Trin. Cam. Schol., 1896); (2) if centre of S′ is on axis of y; (3) if centre of S′ is vertex; (4) if A′B′C′ is equilateral; (5) if centre of gravity of A′B′C′ is on axis of x; (6) if S′ passes through vertex; (7) (a) if S touches S′, (b) if S cuts S′ orthogonally; (8) if common chord of S and S′ is axis of x or y. Also, in the case of an ellipse, find locus of P, (1) if A′B′C′D′ are concyclic (S′); (2) if the tangents at A′B′C′D′ circumscribe a circle (S″). Find further the locus of the centres of S′, S″, and show that for all confocal ellipses the locus of P in (2) and the locus of S″ are each invariable.

13475. (G. E. Crawford, M.A.)—Prove that the sum of the homogeneous products of the rth degree of the five quantities α, β, γ, δ, ϵ is

$$\frac{\Sigma\alpha^{r+4}(\beta-\delta)(\gamma-\epsilon)(\gamma-\beta)(\delta-\gamma)(\epsilon-\beta)(\epsilon-\delta)}{(\alpha-\gamma)(\alpha-\epsilon)(\beta-\delta)(\beta-\alpha)(\gamma-\epsilon)(\gamma-\beta)(\delta-\alpha)(\delta-\gamma)(\epsilon-\beta)(\epsilon-\delta)},$$

and that the number of them is $5\,.\,6\,.\,7 \ldots 4+r/r!$.

13476. (R. F. Davis, M.A. Suggested by Quest. 13405.)—Give the geometrical construction for an ellipse similar to, concentric with, and touching at a given point P, a given ellipse. Also show that the linear dimensions of the two curves are as CP : CD.

13477. (The late Rev. W. Roberts, M.A.)—Find the parallel to $a^2x^2 + b^2y^2 + c^2z^2 = (x^2+y^2+z^2)^2$, which is Freinel's "surface of elasticity"; it is also the pedal of the ellipsoid $(x/a)^2 + (y/b)^2 + (z/c)^2 - 1 = 0$.

13478. (Morgan Brierley.)—ABCD is a given quadrilateral with the opposite sides AB, DC produced to meet in E; draw EQ to the intersection of the diagonals AC, BD. If a line LM be drawn through the middle of the sides AD, BC, it will pass through the middle N of EQ.

13479. (R. Knowles, B.A.)—Prove that

$$(1) \quad \frac{1}{n}\int_0^1 \frac{x^{(m-n)/n}\,dx}{1 \pm x} = \int_0 \frac{x^{m-1}\,dx}{1 \pm x^n},$$

where m and n are any numbers whatever; (2) thence show, n being *any positive integer*,

$$(\alpha)\quad \int_0^1 x^{n-1}\log(1+x)\,dx = \frac{1}{n}\left(1-\frac{1}{2}+\frac{1}{3}-\ldots-\frac{1}{n}\right)$$

when n is even, and

$$= -\frac{1}{n}\left(1-\frac{1}{2}+\frac{1}{3}-\ldots+\frac{1}{n}-2\log 2\right)$$

when n is odd;

$$(\beta)\quad \int_0^1 x^{n-1}\log(1-x)\,dx = -\frac{1}{n}\left(1+\frac{1}{2}+\frac{1}{3}+\ldots\frac{1}{n}\right);$$

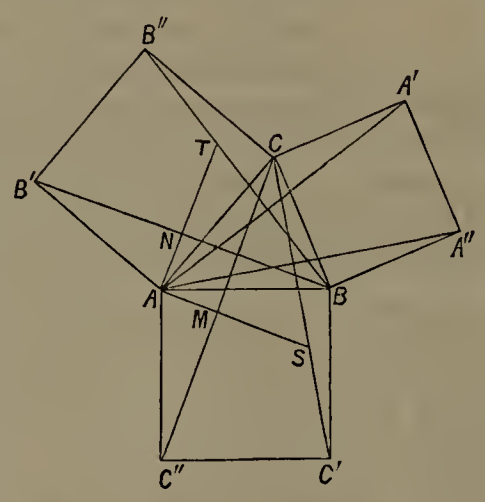
(3) show also from (1) that, if $(m-n)/n = p$ a positive integer, the series

$$\frac{1}{m}-\frac{1}{m+n}+\frac{1}{m+2n}-\&c.\ (ad\ idfin.) = \pm\frac{1}{n}\left(1-\frac{1}{2}+\frac{1}{3}\ldots\pm\frac{1}{p}-\log 2\right)$$

as p is odd or even.

13480. (R. W. D. Christie.)—Find a series which gives all the odd primes in order (not in succession) as factors.

13481. (W. S. Cooney, B.A., T.C.D.)—If squares AB′B″C, CA′A″B, BC′C″A be described on sides of any triangle ABC, and AA′, AA″, BB′, BB″, CC′, CC″ be drawn from each angle of triangle to opposite corners of squares, then (1) triangle formed by intersections of AA′, BB′, CC′ equals triangle formed by AA″, BB″, CC″; (2) the three circles round quadrilaterals formed by AA′, AA″, CC′, BB″; BB′, BB″, AA′, CC″; CC′, CC″, BB′, AA″ have a common point O, which connects collinearly with any angle of the triangle A, the centre of opposite square, and intersection of CC″ and BB′; (3) if perpendiculars AM, AN be drawn to CC″ and BB′, and produced to meet CC′ and BB″ in S and T, then AS = AT, and O is centre of completed square AST, and of each square similarly described at B and C; (4) MN is Simson's line for point A for lines BB′, CC″, BC″, CB′.



13482. (Rev. T. Roach, M.A.)—If $\Sigma_{7n}^{1}\cos^4\frac{1}{7}\pi$ denote

$$\cos^4\tfrac{1}{7}\pi+\cos^4\tfrac{2}{7}\pi+\cos^4\tfrac{3}{7}\pi+\ldots+\cos^4\tfrac{1}{7}7n\pi,$$

find the value of

$$\Sigma_{7n}^{1}\cos^4\tfrac{1}{7}\pi,\quad \Sigma_{7n}^{1}\sin^8\tfrac{1}{7}\pi,\quad \Sigma_{7n}^{1}\tan^6\tfrac{1}{7}\pi,\quad \Sigma_{7n}^{1}\sec^8\tfrac{1}{7}\pi.$$

13483. (P. W. Flood.)—Given the base and vertical angle, to construct the triangle geometrically so that the rectangle of the sides shall have a given ratio to the square of a line drawn from the vertex to a point in the base.

13484. (W. E. Jeffares, B.A.)—If ABC is a triangle, and O its circumcentre, through O draw any diameter LOM intersecting the circumcircle in L and M; find the locus of the intersection of the Simson-lines corresponding to L and M.

13485. (Charles Mitchell.)—*abcd* is a given quadrilateral; E, F, G, and H are four given points. Draw through these points a quadrilateral, having its sides proportional and similarly placed, and its angles equal and similarly placed with those of *abcd*. The sides proportional to *ab*, *bc*, *cd*, *da* to pass respectively through E, F, G, and H.

13486. (C. Bickerdike.)—Find the place of the Sun for June 30, 1897, at 3 hrs. 56 mins. 29 secs. mean time at Greenwich.

13487. (Rev. J. Cullen, B.A.)—Solve

$$(1+x^2)^2(d^2y/dx^2)+2(1-3x^2)y = 0.$$

13488. (Rev. T. Wiggins, B.A.)—A polygon of $2n$ sides, n of which are equal to a, and the remaining n to b, is inscribed in a circle. Show that the radius of the circle is

$$\frac{1}{2\sin\pi/n}(a^2+2ab\cos\pi/n+b^2)^{\frac{1}{2}}.$$

13489. (W. J. Dobbs, M.A.)—Each of the expressions

$$x^6-15x^4y^2+15x^2y^4-y^6,\quad 6x^5y-20x^3y^3+6xy^5$$

is unaltered by the substitution of

$$\frac{x-(3)^{\frac{1}{2}}y}{2}\ \text{for } x,\quad \text{and}\quad \frac{x(3)^{\frac{1}{2}}+y}{2}\ \text{for } y.$$

13490. (John Griffiths, M.A.)—If DEF be a triangle of constant form inscribed in a given triangle ABC, the vertices D, E, F being on the sides BC, CA, AB, respectively, prove (1) that the centre of similitude of DEF will be one or other of two given points; (2) if ∠EDF = ∠B, then one centre of similitude of DEF will lie on the circumference of the circle BCΩ, where Ω is the positive Brocard-point of ABC. [If ∠D = ∠B or ∠C, the circle DEF may be called a generalized Tucker-circle, to which corresponds a generalized Brocard-circle.]

NOTICE TO CORRESPONDENTS.

Owing to the Mathematical Editor's illness, it is requested that, till further notice, all Mathematical communications should be sent, not to the Editor's private address as heretofore, but to

D. Biddle, Charlton Lodge, Kingston-on-Thames.

NOTICE.—Vol. LXVI. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.*; *to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

Thursday, March 11*th*, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Present, eleven members.

The following gentlemen were elected members:—P. J. Kirkby, M.A., Hertford College, Oxford, Lecturer in Mathematics at St. David's College, Lampeter: F. W. Lawrence, B.A., Scholar of Trinity College, Cambridge; Alfred Young, B.A., Scholar of Clare College, Cambridge.

The President referred to a letter received from the President of the Royal Society with reference to the "Victoria Research Fund," which it is proposed to institute in commemoration of Her Majesty's long reign, and commended the fund to the generous consideration of members. He then spoke briefly on the loss the mathematical world had sustained by the recent death of Prof. Weierstrass. Mr. Jenkins, V.P., having taken the Chair, the President communicated a paper by Mr. J. E. Campbell, M.A., "On a Law of Combination of Operators bearing on the Theory of Continuous Transformation Groups." The President next read, from the Chair, "Some Notes on Symmetric Functions," by Prof. W. H. Metzler. The Senior Secretary briefly communicated "A Note on a System of Circles connected with a Triangle," by Prof. Steggall. Lt.-Col. Cunningham, R.E., mentioned the following high primes:—85,280,581; 234,750,601; 2,413,941,289, recently determined by him, and gave a sketch of the methods used.

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The *Literary World* of October 16th, 1896, in a review of "Stones of Stumbling," says:—

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1. DIPLOMAS.—The Midsummer Examination of Teachers for the Diplomas of the College will commence on the 6th of July, 1897.—At the Midsummer Examination, persons who have previously passed in Theory and Practice of Education at the Diploma Examination may be examined practically for Certificates of Ability to Teach.

2. CERTIFICATE EXAMINATIONS.—The Midsummer Examination for Certificates will commence on the 29th of June, and the Christmas Examination on the 7th of December.

3. JUNIOR FORMS EXAMINATIONS.—The Midsummer Examination will commence on the 29th of June, and the Christmas Examination on the 7th of December.

4. PROFESSIONAL PRELIMINARY EXAMINATIONS.—These Examinations are held in March and September. The next Examination will commence on the 7th of September, 1897.

5. INSPECTION AND EXAMINATION OF SCHOOLS.—Visiting Examiners are appointed by the College for the Inspection and Examination of Public and Private Schools.

PRIZES.

Diploma Examination.—In addition to the Doreck Scholarship of £20, the following Prizes will be competed for: Theory and Practice of Education, £10; Classics (Greek and Latin), £5; Mathematics, £5; Natural Science, £5.

Certificate Examination.—The "Isbister Prize" will be awarded to the Candidate who stands First, and the "Pinches Memorial Prize" to the Candidate who stands Second in General Proficiency. Prizes will also be awarded to the Third and Fourth in General Proficiency, and to the First and Second in the following subjects:—Classics, Mathematics, Modern Languages, Natural Sciences, English Subjects. The "Taylor Jones Memorial Prize" will be awarded to the best Candidate in Scripture History. Two Medals will be awarded to the best Candidates in Shorthand.

The Regulations of the above Examinations can be obtained on application to the Secretary at the College, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., *Secretary.*

PRELIMINARY EXAMINATION of MEDICAL STUDENTS.—The COLLEGE of PRECEPTORS will hold an Examination for Certificates recognised by the General Medical Council as qualifying for Registration as a Medical Student, on the 7th, 8th, and 9th of September, 1897.

The Examination will take place in London, and at the following Local Centres:—Birmingham, Bristol, Leeds, Liverpool.

Examination Fee, 25s.

Regulations and Entry Forms may be obtained on application to the Secretary of the College of Preceptors, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
EXTRACT FROM THE BY-LAWS.

Section II., clause 5.—"The Council may grant the privileges of Membership, without payment, to holders of Diplomas of the College, as long as such persons are engaged in teaching in Secondary Schools."

Holders of the College Diplomas who are not Members of the College are requested to send their Addresses to the Secretary of the College, Bloomsbury Square, W.C. C. R. HODGSON, B.A., *Secretary.*

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Further particulars may be obtained on application to— C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.
LOCAL LECTURES FOR TEACHERS.

The Council of the College will be prepared to arrange for the delivery of Courses of Lectures on the SCIENCE AND ART OF EDUCATION at Local Centres where application is made to the Council and where the necessary cost and expenses are guaranteed.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
SCHOLARSHIPS FOR INTENDING TEACHERS.

With the view of encouraging the systematic training of teachers for their profession, the Council have established four Scholarships (two for male and two for female candidates), which will be offered for competition at the Certificate Examination in June, 1897.

The value of each of these Scholarships is £45 for a single year, or £30 a year for two years, if the candidate should determine to extend the period of training over more than one year.

The Scholarships for male candidates are tenable only at the College of Preceptors' Training College; those for female candidates are tenable at any Training College for Teachers in Secondary Schools, either at home or abroad, that may be approved by the Council.

Candidates (who must not be under 18 or over 21 years of age at the date of the Examination) are required to declare their intention of competing for these Scholarships prior to the Examination, and to submit such testimonials of character as may be considered satisfactory by the Council.

The Scholarships will be awarded to those candidates who, having fulfilled the above conditions, obtain the highest places in the Honours Division of the First Class. C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.

THE CALENDAR FOR 1897

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Syllabus and Forms of Entry can be obtained of the Secretary. The last days for entry are May 15 and June 15 respectively.

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History	The Principal.
English Language and Literature	Lecturer—W. Lewis Jones, M.A., late Scholar of Queens' College, Cambridge.
Philosophy	James Gibson, M.A., Fellow of St. John's College, Cambridge.
Mathematics	G. H. Bryan, Sc.D., F.R.S., late Fellow of Peterhouse, Cambridge.
Welsh	J. Morris Jones, M.A., late Scholar of Jesus Coll., Oxford.
Welsh History	Lecturer—J. E. Lloyd, M.A., Lincoln College, Oxford.
Physics	Andrew Gray, M.A., LL.D., F.R.S.
Chemistry	J. J. Dobbie, M.A., D.Sc., late Clark Fellow of Glasgow University.
Biology	R. W. Phillips, M.A. (Camb.), B.Sc. (Lond.), late Scholar of St. John's College, Cambridge.
Zoology	Philip J. White, M.B. (Edin.), F.R.S.E.
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The average cost of living (in lodgings) and tuition at Bangor for the Session (33 weeks) is from £30 to £40. A Hall of Residence for Women, under the supervision of Miss Mary Maude, who is the College Lady Superintendent of Women Students, is now open. At the Entrance Scholarship Examination (which commences in September in each year) over 20 Scholarships and Exhibitions, ranging in value from £40 to £10, will be offered for competition.

For detailed information as to Courses, Entrance and other Scholarships, &c., apply to the Secretary and Registrar, J. E. LLOYD, M.A.

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Principal — Miss EMILY PENROSE.

The Easter Term, 1897, began on Thursday, April 29th.

The Half Term begins on Monday, May 31st.

Special Classes for Students who Matriculated in January.

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One Pfeiffer Scholarship in Science, annual value £48, and one Clift Scholarship in Arts, value thirty guineas, each tenable for three years, will be awarded on the results of an Examination to be held at the College in June.

Names to be sent in to the Principal not later than June 15th.

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UNIVERSITY OF LONDON.

NOTICE IS HEREBY GIVEN, that the next Half-yearly Examination for MATRICULATION in this University will commence on MONDAY, the 14th of June, 1897.—In addition to the Examination at the University, Provincial Examinations will be held at University College, *Aberystwith*; University College, *Bangor*; The Modern School, *Bedford*; Mason College, *Birmingham*; University College, *Bristol*; Cavendish College, *Cambridge* (*for Ladies only*); Dumfries College (for University College), *Cardiff*; The Ladies' College, *Cheltenham* (*for Ladies only*); The Heriot-Watt College, *Edinburgh*; The Royal Medical College, *Epsom*; The Yorkshire College, *Leeds*; St. Edward's College, *Liverpool*; University College, *Liverpool*; The Owens College, *Manchester*; Rutherford College, *Newcastle-on-Tyne*; University College, *Nottingham*; The Athenæum, *Plymouth*; Firth College, *Sheffield*; Hartley Institution, *Southampton*.

Every Candidate is required to apply to the Registrar (University of London, Burlington Gardens, London, W.) for a Form of Entry *not less than five weeks* before the commencement of the Examination.

F. VICTOR DICKINS, M.B., B.Sc.,
April 10th, 1897. *Registrar.*

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Syllabus may be obtained on application.

*** A Doreck Scholarship, of the value of £20, will be awarded at the Diploma Examination at Christmas next to the Candidate who, having attended two courses of the Training Class Lectures during the preceding 12 months, and having passed the full examination for a College Diploma, stands first in the examination in the Theory and Practice of Education.

The Fee for the Course is Half-a-guinea.

The Lectures will be delivered on Thursday Evenings at 7 o'clock, at the College, Bloomsbury Square, W.C.—Members of the College have Free Admission to the Courses.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—AGENCY DEPARTMENT.

The College Registers are open for the reception of applications from Principals of Schools, and others who may require Assistants, Tutors, or Governesses; and also from ladies and gentlemen desirous of obtaining engagements as Assistants in Schools, or as Tutors or Governesses in private Families.

Only the names of those persons who are qualified by examination for admission to membership of the College can be entered on the Registers. [This regulation does not apply to teachers of special subjects, such as Drawing, Music, Foreign Languages, &c.]

Members of the College pay no fee. The fee to be paid by any person, not a Member of the College, on obtaining an engagement, is one guinea, irrespective of the amount of the salary; or, in the case of temporary engagements, half-a-guinea.

Regulations and Forms can be obtained on application to the Secretary. C. R. HODGSON, B.A., *Secretary.*

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Resolutions of the College of Preceptors (1893-6) in view of the Proposed Reorganization of Secondary Education.

1. That early legislation for the organization of secondary education is necessary, more especially in view of the increasing tendency of the authorities engaged in providing primary education to occupy the legitimate field of secondary education, and the consequent overlapping of educational authorities and agencies.

2. That, whatever form the legislative organization of secondary education may eventually take, it is very desirable that there should, without delay, be introduced into Parliament a measure, or measures, (i.) for delimiting primary education and (ii.) for providing for the registration of persons qualified to teach in secondary schools.

3. That it is desirable, for the purpose of registering such teachers, to create at once an Educational Council, including a large professional element, to which, from time to time, other functions in connexion with secondary education should be entrusted.

4. That provision should be made for the adequate representation of the teaching profession on all bodies having control over secondary education.

5. That in any scheme for the organization of secondary education it is both in accordance with justice and for the public interest that all existing agencies for the supply of such education should be utilized, provided they comply with all reasonable conditions of efficiency.

6. That, both in estimating the needs of any district in respect of secondary education and in allocating public money to the purposes of secondary education, efficient private and proprietary schools should be placed on the same footing as public schools.

7. That the setting up of schools established and maintained by public money in the neighbourhood of existing efficient schools (whether endowed, proprietary, or private) which are entirely or partially self-supporting, at such low fees as to undersell them, would tend rather to impair the efficiency of good schools than to eliminate the inefficient.

8. That the efficiency of secondary schools should be certified by educational experts, or by examination or inspection by recognized public bodies, and should not be decided by persons inexperienced in secondary education.

9. That no scheme for the organization of secondary education would be complete which does not recognize the necessity of providing for the professional training of secondary teachers.

The Educational Times.

The Delay of the Inevitable.

Little or nothing seems to have happened within the past two months which would make the passing of a Secondary Education Act this year more likely than it appeared to be at the beginning of the session. It has been surmised by one of our weekly contemporaries that the Committee which is inquiring into part of the work of the Science and Art Department may be about to report, that its report may be unfavourable to the present system of awarding the South Kensington grants, and that the Government may thereupon immediately remodel the Education Department, and set up a central authority for secondary education. If that be a true prognostication, the Government must have acquired a new stock of reforming energy and enterprise, and we cannot see where they were to get it. Of course, we recognize in the Duke of Devonshire and Sir John Gorst two potent influences, making in the main for genuine reform in the secondary sphere, and possessing quite enough energy to carry a Bill through Parliament. But we doubt if they have sufficient backing in the Cabinet, and we cannot see that they have become more influential, even in matters which belong to their own Department, than they were a year ago. So far as the House of Commons is concerned, Mr. Balfour has created for himself a special portfolio of Education. His negative qualifications for this post destroyed the Bill of 1896, and he would surprise his best friends if he were to introduce and carry a Secondary Education Bill in 1897.

We quite agree with what Mr. Bryce said, in his very judicious speech at the College of Preceptors, that there is too little party controversy over this subject to arouse the enthusiasm of a party leader. Everybody's question is apt to be nobody's question. A Bill strongly desired by one party and strongly disliked by the other generally becomes law through the working of the party machine. "Although no party has any objection to a Secondary Education Bill, although there is no ecclesiastical or political controversy turning on the Bill, the very fact that it is not in the interest of any particular section of the community to press forward that Bill as a boon to themselves, and as a reward for services which they have rendered to their party, makes it the more difficult to get such a Bill introduced." We do not altogether share the confidence of

Mr. Bryce that there is no ecclesiastical controversy turning on the Secondary Education Bill. On the contrary, we are threatened with a keen dogmatic conflict over any measure which aims at the endowment of secondary schools with public funds. But the gist of what Mr. Bryce said is perfectly true. The Bill has been and will be delayed because a majority of the Cabinet do not think it worth their while to be energetic about a measure which has so little to do with party prejudices and gains.

It cannot be said that party politics have nothing whatever to say to a Secondary Education Bill. In true education, and amongst the single-minded friends of education, there is no element of political or religious partisanship; yet the progress of education depends none the less upon party and partisans. Let us consider how we stand at the present moment in relation to the two main political parties. How are our special and private interests affected, as teachers, or students, or parents, or simply as citizens to whom education is the highest of all worldly concerns, by the party colour of the Government of the day? To come to the point at once, are we likely to get a better secondary system of education from Mr. Balfour or Sir William Harcourt, with Sir John Gorst at Whitehall or Mr. Acland? We are not going to tread far on this delicate ground, nor to labour the points which we raise, but there can be no doubt that we have cause for anxiety, whichever of our friends are in office, and that our danger springs from their traditional virtues and their undoubted good will. Both Tories and Radicals are friends of education; and it is hard to see whether we ought to fear more from an excess of that caution in reform which is the amiable characteristic of the Tory, or from an excess of that zeal for progress which is the equally amiable characteristic of the Radical. Mr. Balfour may keep us dangling on for the remainder of his lease of power, or may give us little nibblets of legislation which will produce no sensible effect upon the problem waiting to be solved. That would be due to an excessive fear lest he should injure what is good by creating what he is not sure would be better. On the other hand, it is feared by many that, if there were a change of Government, Sir William Harcourt might set up tyrannous local authorities, which would crush out the freedom and variety of private and literary schools under a Juggernaut of coded, technical, higher-grade instruction. And that would be due to an excessive zeal that every English boy should be trained to beat any German boy in the manufacture of cheap goods. So there are dangers at both extremes, and our hope of safety lies between the two, in a combination of the two tendencies and in a blend of zeal and caution. We can only continue to hope that there will be no legislation unless and until our legislators are clearly disposed to give us what we deem the essentials of a new system, and to leave us what we consider the indispensable elements of our present freedom.

We must insist, again and again, on these essentials of reorganization, and on these indispensable elements of freedom, because, whenever we come to close grips with a legislative scheme, it will be necessary to press our claims with the utmost energy, and to point out that they have never varied, from the beginning of this controversy to the end. The claim of the secondary schoolmasters is that all efficient schools shall be treated on the same basis, that grants shall no longer be confined to particular types of efficient schools, that legislation shall recognise the necessity for freedom, variety, and elasticity in secondary education, that all bodies having secondary control shall include an appreciable element of members elected by a secondary electoral register, that local authorities shall be controlled by a central secondary authority, that the central authority shall include an advisory and appellate Council, representing all the interests of education, and that there shall be no arbitrary interference with independent schools which do not ask for aid.

With this scheme in its entirety, the interests of education would be secure. With any point omitted, the enactment of the rest would be inadequate or injurious. A year has now passed since the Cambridge Conference adopted a series of resolutions which, as we showed at the time, were practically identical with the resolutions of the College of Preceptors in 1893, and with the form which these latter resolutions assumed after the College Conference of January, 1896. As it is quite possible that a Secondary Education Bill may be introduced at any moment, and without much warning in advance, and as it seems right and necessary that the position taken by the College in the interests of secondary education should be made as clear as possible, and should be constantly in evidence, we shall henceforth print the College resolutions, month by month, at the head of our leading articles.

Cambridge in Need.

We have received from the Chancellor of the University of Cambridge a "statement concerning the financial condition and requirements of the University," with a request that we will assist in bringing it before the public. It has been no secret for many years past that the fall in agricultural values has seriously diminished the available income of the University and its constituent colleges, while the expenditure necessary to provide for the maintenance of the several branches of instruction and research has steadily increased. According to the Report, which we are taking as our text, a point has now been reached at which, without new endowments of a substantial kind, the complete efficiency of the University is endangered, while the proper expansion of existing departments and the establishment of others to meet fresh requirements as they arise are gravely impeded. But we cannot doubt that when the actual conditions in this respect are duly apprehended throughout the country the flow of benefactions for educational uses, which for years has practically ceased to reach the University, may again be directed to it. "In recent times," we are told, "not a few munificent donations for the founding of special prizes and scholarships have been made, and in this particular the University is now well provided. But, with one exception, no considerable benefaction for general academic purposes has been received, though such endowments are at present the most needed, and the most likely to be widely useful."

The Duke of Devonshire points out, in his covering letter, that no suggestion is made for any immediate appeal to the liberality of the public by the ordinary methods. There is for the moment no fund, no appeal to Parliament, or to the distributors of grants, or to the wealthy and benevolent. It is hoped that, when the disparity between the shrunken resources of the University and its increased duties is fully known, means will be found by which its endowments may be raised to the level of its present requirements. The very influential Com-

mittee who were deputed to draw up this official statement as to the financial position of Cambridge explain the relations in which the University stands to the seventeen constituent colleges. The instruction provided by the University is given by its staff of professors, readers, University lecturers, demonstrators, and other educational officers, numbering in all about a hundred and twenty. Speaking generally, their teaching deals with the higher branches of the literary, philosophical, and mathematical subjects, and with all the various departments of natural science. For the purposes of education and research the University maintains the University Library, certain special libraries, the Divinity and the Literary Schools, the Observatory, the Botanic Garden, eight museums, and eight laboratories. In the year 1896 the expenditure on the teaching and official staff of the University, and of the officers—all of these being outside the special domains of the colleges—amounted to £33,229, whilst the cost of maintaining the various establishments just enumerated was £22,057. The total expenditure of the University was £62,542; and its revenue consisted of £39,366 from the capitation-tax on undergraduates and the different University fees, £16,577 from college contributions, and £6,694 from endowments. These figures bring up the revenue of 1896 to a total of £62,637, so that there was a balance to be carried forward of precisely £95. Nothing could be more eloquent of the difficulties under which the University is labouring than this excess of income over expenditure. Balances of that kind are not created without a rigid abstention from outlays which nine out of ten men would consider absolutely necessary and indispensable.

How, then, since the University cannot economize any further, is it to receive that adequate and permanent accession of income which every one will at once declare that it ought to receive? It appears, from this most candid and significant Report, that the capitation tax on undergraduates has recently been more than doubled. Many of the degree fees have also been raised, and it is questionable whether they can be further increased without diminishing the total receipts. The income from the tax and from fees necessarily fluctuates with the number of persons belonging to the University, and is therefore uncertain. The endowments consist principally of tithe and agricultural rents, the income from which has fallen considerably and will probably diminish in the future. The contribution from the colleges for successive periods was fixed by the University Commission of 1877, and it was to have been increased by about £8,000 last year. But, in the meantime, the income of the colleges has been decreasing, like the income from the University endowments, having fallen off in the last fifteen years by 34 per cent. "The pressure of the contribution on many of the colleges has thus become so extreme that the Chancellor has more than once exercised his statutory power of lowering the amount to nearly its minimum, and the Queen in Council has, at the instance of the University, sanctioned the postponement until 1902 of the time at which the maximum tax should be imposed. Unless, however, the conditions now prevailing undergo material improvement, the final increment of income to the University accruing in 1902 from this source can hardly be much greater than £2,000." And, to make the whole matter worse, the University establishments are crying aloud for more liberal treatment, which cannot be denied to them without a very serious decrease of their efficiency. The Report concludes with the perfectly just observation that, if the University is to meet the reasonable demands which are made upon it for further large expenditure, "in the manner contemplated by the Commissioners of 1877, and expected by the nation at the present day," its re-endowment in respect of many of its departments is a pressing necessity.

Such is the appeal of facts which one of our two premier Universities now makes to all her sons, to such as love learning and revere antiquity—to every man in Great Britain, in her Colonies, and in America, who has at the same time a respect for the advancement of knowledge and an abundance of this world's goods. We cannot believe that it will be made in vain. There must be thousands of wealthy men who only stay their hands until they see an object which fires their enthusiasm, and inspires them with an ambition to give. And assuredly there is no object more inspiring and more lofty than the re-endowment of Cambridge University. The wildest dream of the American millionaire never conceived a better opportunity of securing deathless fame than is provided for any one who would forward one of his spare millions to Cambridge. And if at home we have fewer millionaires than they boast of on the American strand, we have certainly more than fifty men to whom a cheque for £10,000 would be a mere bagatelle, though it would make them pious founders to all eternity. The simple publication of this financial statement ought to obtain for Cambridge all that she requires, without the necessity of making any more direct and strenuous appeal.

NOTES.

Although some private schoolmasters appear to take a despondent view of their prospects, and to magnify such dangers as are inseparable from a thorough organization of secondary education in England, we are convinced that efficient schools have little to fear, and much to hope, from any legislation which is at all likely to be passed. The injury of unfair competition, the injustice of glutting the technical and quasi-technical schools with money and using them so as to deplete existing schools of other types, and the increase of secondary schools under the primary Acts, all these are present and potent evils against which the private schoolmaster has every reason to protest. But the point to be remembered is that these evils have done more than anything to create the strong demand for organization, and that the aid of Parliament is invoked for the very purpose of abating them. If things were to be left as they are, private schools would soon bleed to death. If legislation be passed on the basis laid down by the Royal Commission, the Oxford and Cambridge Conferences, and the associations of secondary schoolmasters, every efficient school will profit by it.

The letter which we print in our correspondence from a private schoolmaster in Yorkshire is both forcible and wise. The writer states a real grievance, and he asks no other remedy than to be allowed to stand or fall by the test of efficiency. We believe that Mr. Biggadyke interprets the opinion of a very large majority of private schoolmasters. We can quite understand the attitude of those who now direct the fortunes of the

Private Schools' Association, and who think it wise to deprecate any legislation, except a Registration Bill and a Teachers' Training Bill, until they are absolutely certain of a guarantee against mischievous interference. That is, indeed, our own position, though perhaps we have a little more confidence in the power of the profession to maintain its rights. In the meantime, we do not see the wisdom of marching to battle in small and independent detachments. Let us have no breaking of the ranks, no division of counsel.

The Joint Committee on the Training of Teachers have decided to proceed by resolution in the order suggested by Mr. Hardman's "Findings of the Royal Commission on Secondary Education," recently printed in our columns. They have further resolved to invite the co-operation of persons desirous of offering evidence on the subject. Everyone who is at close quarters with the efforts that are being made to give teachers a professional training is convinced of the practicability and utility of training. Only time can convince the large number of doubters; because only time will enable the results to be proved. But matters are going rapidly enough. This month will see Miss A. J. Cooper and Mr. W. M. Keatinge fairly started in their work at Oxford. On May 15 the Rev. G. C. Bell, Headmaster of Marlborough College, will give an address in the Examination Schools, calling attention to the need of training for secondary teachers, and to the arrangements which have been made by the University. As for London—there have been some preachers in the wilderness.

The National Union of Teachers, at its Easter Conference at Swansea, has passed the following resolution: "That any attempt to restrict popular education by drawing a hard and fast line between primary and secondary education should be strenuously resisted as injurious to education, and that all grades of national education should be controlled by the same local education authority, and be subject to one central authority." The elementary teachers are practically saying: "We will absorb secondary education and make it our own, or we will oppose its organization with all our strength." The assumption that popular education is to be restricted by delimiting secondary and primary schools is fallacious, and quite unworthy of the N.U.T. executive. They know better; they know that secondary education must be organized, and that this implies delimitation. They know, further, that such delimitation will improve, and not restrict, popular education. Such a resolution is playing to the gallery, and cannot but do harm to an association that claims to consider the child before the teacher.

It is interesting to compare the position of women, with regard to University education, at Oxford and at Cambridge. There are at Oxford about 190 students in residence, at Cambridge about 270, but the attendance of the Oxford students at University and College lectures is very much larger, the number of courses attended being 805 and 455. Every Oxford College but Magdalen admits women to lectures, whilst at Cambridge there are still six which refuse to admit them, and one which has not been asked to do so. The number of lecturers admitting women is somewhat greater at Oxford. On the other hand, there seems to be more pressure on the laboratories at Cambridge, where the number of science students, both men and women, is much greater than at Oxford; but, unfortunately, the statistics have not been tabulated. About 100 of the Cambridge women students appear to attend no lectures in the University. With regard to the libraries the Oxford students are at an advantage. No fee is charged, as is the case at Cambridge, and no difficulty is experienced by Honour students in obtaining permission to read or to take out books, when, as is the case with the Taylorian, though not with the Bodleian library, it is permissible to do so. The Cambridge student enjoys the very great privilege of formal recognition by the University, but the Oxford student has *all* the examinations for the B.A., Pass and Honours, open to her, and is able, if bad health or want of ability prevents her from taking an Honour course with advantage, to qualify for the Pass degree. It may not be desirable for a girl to come to the University merely for Pass work, but she may have mistaken her powers, or her health may fail after she has come into residence, and it is then a great convenience to her to be able to take the Pass course.

It is also possible to obtain a University education at Oxford without residence in one of the Halls, by becoming a member of the body of Home Students. These students are, equally with those of the four Halls, registered on the books of the Association for the Education of Women in Oxford, but they have a Principal of their own, who, with a Committee constituted by the Council of the Association, is responsible for them. This Committee has just issued a general and an annual report, from which we learn that most of the students reside in their own homes, but that some reside with ladies in Oxford, under whose charge they are placed by the Principal. In a very few cases they are permitted to live in approved lodgings. They number at present about thirty, but, of these, ten reside in St. Kentigern's Hostel, a sort of private Hall which will shortly be removed to St. Andrews. Most of the foreigners who come to Oxford to study belong to the Home Students, and in three cases students who have taken Classical Moderations from Holloway College have joined them, for the purpose of taking the Final School of Literae Humaniores, for which Holloway cannot adequately prepare them. The students are admitted to the Inter-Collegiate Debating Society and hockey team. It is interesting to notice, in view of the foolish fears sometimes expressed about the non-collegiate woman student, that the Committee report that the system has been worked absolutely without difficulty, and that thirty-two Classes have been obtained in different Honour Examinations, including seven Firsts. Under proper regulations it is as easy to arrange for the control of isolated students as for those living in a Hall, and though a home student loses much in the absence of collegiate life, she can obtain a University education at a comparatively small cost.

Mr. Storr's paper on the "Teaching of English Composition," which we print this month, will be found very good reading, with plenty of sensible suggestion amidst its flowers of rhetoric. The main line of its argument is that the art of writing freely grows up, like every other art, from imitation to experiment without a model, and from practice to confident execution. That is so; but it does not lead us to acquiesce in Mr. Storr's "emphatic protest" against the teaching of composition in elementary schools "as a preparation for, or a deduction

from, grammar." Evidently the practice of writing must be something more than a pendant to grammar, though to write Queen's English without grammar would puzzle the most ingenious of Queen's scholars. Mr. Storr quotes, and apparently disagrees with, a statement which seems to us to be absolutely indisputable: "Composition and grammar must be taught together. Any attempt to separate them will lead to failure in both." When a boy brings you his theme, are you going to show him how a particular word would have expressed his meaning more fully, or how a weak sentence might be turned into a strong one? If so, you are teaching grammar; if not, you are not teaching composition. Clearly the two things are inseparable. Merely to let a boy write what he likes, without regard to the manner of writing it, may have its uses, but it is not "teaching composition." We are quite at one with Mr. Storr in thinking that imitation and practice are the royal road to good writing.

The notion of teaching the beginnings of a language to young children by means of pictures is certainly becoming more common. For many years Hölzel's pictures have been in use in German, Austrian, and Belgian schools; and even in England, backward as our French and German class-books too often are, we have recently seen one or two attempts to adopt this plan. Each of these books describes itself as So-and-So's method, entirely new, and so on. Yet is it, indeed, possible to find anything new under the sun? It is more than two hundred and fifty years since Comenius published his new Latin grammar, in which vocabulary was taught by means of pictures, on a plan very little dissimilar from that of modern text-books. Was Comenius original? We do not know; but we wish every man who has just begun to learn how to teach would not in his new-found delight rush into print with an "entirely new" method or system.

The ratepayers at Southampton have some ground for their revolt against the School Board rate, though we would be the last to approve of undue economy in this direction. The school at Mount Pleasant has cost, including site, £25 per school place—a sum about double the average amount. The Board has recently authorized its architect to go to the extent of £15 a head for buildings alone, although Birmingham and Manchester—towns not lacking in educational enthusiasm—manage their buildings for about £9 or £10 a head. The £15 certainly seems like unnecessary extravagance. In the further criticisms that have been made we see only too clearly the cloven hoof of that still unslaughtered beast—payment by results. It seems that salaries at Southampton are good, better than in most towns, and yet the grant earned has been eighteenpence less than the average for England and Wales. It is true that the teacher must be judged by his results. But the best results are rarely capable of being tested by Her Majesty's Inspectors.

SUMMARY.

THE MONTH.

The Joint Committee who are considering the general question of the Training of Secondary Teachers held their second meeting at the College of Preceptors on April 7. Arrangements were made for distribution to the Committee of the tabulated returns on Probation collected last year by the Headmasters' Committee, and of the results of certain inquiries among headmistresses, tabulated by Miss Cooper. The Committee felt that more information is still needed as to the particular forms of objection to training which are found among certain schoolmasters, especially in the public schools. It was decided to invite two or three gentlemen, teachers of known repute, to meet the Committee on the next occasion and discuss the matter with them. Meanwhile the Committee proceeded to discuss and amend a series of resolutions on the agenda paper. These were not agreed to in any final form; but the first two were accepted as follows for the present:—

Resolution 1.—*Scope of Training*:—"That the complete course of Training for a secondary teacher should consist of two consecutive periods: in the first of these he should continue his general education after leaving the secondary school; in the second he should pursue a course of specific professional training (as hereafter described in Resolution 2). It is recommended that the Theory and Practice of Education be not sanctioned as an alternative subject for a B.A. or B.Sc. degree (either Pass or Honours) of a University."

Resolution 2.—*General Qualifications*.—"That before candidates for a professional diploma are admitted to a course of professional training they shall be required to produce certificates as follows:—(i.) *Preliminary*, of general education; the minimum not to be less than the minimum standard required at the entrance to all other learned professions. (ii.) *Special*, of advanced knowledge, in some of the principal subjects which are taught in secondary schools. The minimum standard of attainment not to be less than that imposed by the pass degree of a University, but a large variety of choice to be permitted to the candidates (from among the certificates of public examining bodies), so as to recognise all the subjects now embraced in the curriculum of secondary schools."

The Committee will meet again on Tuesday, May 11, at 3 p.m., when it is hoped that further progress may be made in the drafting of resolutions based upon the findings of the Royal Commission. It is understood that the resolutions of the Committee, when confirmed at a later stage, will be submitted to the Councils of the various teachers' associations, in the hope that a fair consensus of opinion may presently be reached on the problem of Secondary Training. Meanwhile, the Committee's labours will be greatly assisted if teachers belonging to these societies who have views or experiences to offer will communicate them to their representatives.

The Private Schools' Association held their annual Conference at Buxton in Easter week, from April 18 to 23; some sixty or seventy members and friends attending. At the first meeting, Mr. G. Brown, the President, in his opening address, defended private schools from the charges of incompetence and self-seeking, and claimed their right to be fairly treated in any future legislation. Mr. Bayley, Mr. Walmsley, and others urged that County Council scholarships should be tenable at private schools. Tuesday's subject: "The Penalization of Private Schools" was practically a continuation of the first debate, and it was maintained that the reasons commonly alleged for not allowing private schools to receive grants were of no real weight, though such aid could not be expected for the erection of buildings. On Wednesday a social meeting was held in lieu of a discussion, and on Thursday the Conference considered the "Proposed Legislation." The chief reason for the choice of this subject was to arouse members to a perception of the dangers which are to be apprehended from legislation, and to point out that, although private teachers desire, as far as possible, to work in harmony with other bodies, yet in some points their position was unique and compelled them to safeguard their own peculiar interests. The concluding general meeting was held on Friday morning, when the following resolutions were passed:—

I. The members of the Private Schools' Association, Incorporated, now assembled in Conference at Buxton, unanimously desire to express to Her Most Gracious Majesty Queen Victoria their hearty congratulations on the attainment of the sixtieth year of her reign, and earnestly trust that she may long be spared to reign over her devoted and loyal subjects.

II. That the Conference of the P.S.A.I. reaffirms its frequently expressed opinion that in any legislation on secondary education a Bill for the registration of teachers in secondary schools should hold the first place.

III. That clauses in any Act already in force, or in any Bill to be in-

troduced, which may impose disabilities upon private schools that are not equally imposed upon all other schools, should be removed.

The Association of Headmasters has printed the following *précis* of a scheme of secondary organization, drawn up by its Parliamentary Committee, based upon, but not entirely conforming with, the recommendations of the Royal Commission on Secondary Education :—

The Technical Instruction Acts render legislation absolutely indispensable. Organization demands: (*a*) A central authority: (i.) to include necessary powers of Charity Commission; (ii.) to include a professional advisory Council; (iii.) with a responsible Minister. (*b*) Local authorities: (i.) on the lines of administrative counties and county boroughs; (ii.) to include persons experienced in secondary education. (*c*) Registration: (i.) of teachers, *i.e.*, persons qualified to teach in secondary schools, as recommended by the Royal Commission on Secondary Education; (ii.) of efficient secondary schools; as regards number and qualifications of staff, adequacy of appliances for teaching, and suitability and sanitation of premises. (*d*) Delimitation of primary and secondary schools: (i.) primary schools, or elementary schools proper, to include the present standards only; (ii.) higher primary schools to be continuation schools solely, beginning with the work of Standards VI. and VII., and taking continuative Standards VIII. and IX., when inserted in the Code; their curriculum to have, much as in France, a direct bearing on industrial employments, and to be planned to terminate at the age of fourteen; in rural districts, where higher primary schools cannot exist, continuation courses should be established under conditions designed to secure efficiency; (iii.) secondary schools to provide curricula adapted to professional, scientific, mercantile, and higher industrial requirements, or those of the public services, and planned to terminate at the age of seventeen or nineteen; (iv.) secondary education proper may be said normally to commence at the age of twelve; (v.) the normal admission to a secondary school is: (*a*) after home tuition, or from an independent preparatory school; (*b*) from the preparatory department of the secondary school itself; (*c*) from the elementary school proper on completion of Standard V.

Note 1.—A pupil in an elementary school proper, on the completion of Standard V., would thus have three options: (*a*) of remaining in the elementary school proper to complete Standards VI. and VII.; (*b*) of passing to the higher primary school for a four years' course; (*c*) of passing to a secondary school.

Note 2.—The passing from the elementary school proper to the higher primary school or to the secondary school should be facilitated by a liberal provision of scholarships of sufficient value provided from public funds.

The National Union of Teachers met at Swansea in Easter Week. The new President of the Union is Mr. C. J. Addiscott, Headmaster of Daubeney Road Board School, Clapton. In his presidential address he referred to what he termed the criminal waste of educational effort. His contention was that as a nation we stand convicted in regard to the children who are allowed to drift away from the schools between the ages of eleven and fourteen, thousands being uncivilized, and tens of thousands uneducated. Thirty years ago we had to face the problem how to get every child into a school; to-day we have to ask in what condition we should send every child out of the school, a question to which a satisfactory answer has yet to be made. We have to deal both with general irregularity in school attendance and with the total non-attendance of children as they approach the higher limit of school age. "The child who by law was not allowed to go to work, and was not compelled to attend school, became to his fellows, as a result of our benevolent and hesitating policy, a centre of moral contagion, a nuisance to his locality, and a burden to the nation. Better not have a law compelling school attendance than, having it, to encourage a wholesale contempt for it by the very section it was intended to benefit." Mr. Addiscott's drastic remedies for the evil of which he complains include greater efficiency on the part of the attendance officer, a special magistrate for school attendance cases, the increase of the penalty to £1 for non-attendance, the abolition of half time, the summary detention of truants for three days, "which three days should be for ever afterwards an abiding memory." We want, said Mr. Addiscott, a method which shall be short, sharp, and decisive.

The Metropolitan Board Teachers' Association have sent a reply to the Technical Education Board of the London County Council, which had called attention to the small number of scholarships obtained by the districts of Hackney, Bethnal Green, and Tower Hamlets, as compared with the number obtained in the Deptford district. The Association urge that the comparison between the districts named is entirely misleading, and they proceed to offer some criticism on the mode of awarding the scholarships :—

Surely it is the system, and not the teachers or districts, that is to blame. If the Technical Board wishes the poorer districts to obtain scholarships, the remedy is in its own hands. The present competitive plan must be dropped and the scholarships allocated to schools. Inquiry will prove that it is not the teachers of the poorer districts who are responsible for the scholarships going to the children of better-off parents. We respectfully suggest that if such an inquiry included the following queries the replies would convince the Technical Education Board that a better system of allocating the scholarships is urgently needed in order to give children of a poorer class of workers some chance of availing themselves of the advantages offered :—(1) Is not special "coaching" necessary for the winning of scholarships? (2) Is not such "coaching" done after school hours, sometimes at the teachers' homes? (3) Are not many of the larger schools able to have a scholarship class and a special teacher for such class? (4) Are not parents in the poorer districts more anxious about labour certificates than L.C.C. scholarships? (5) Is not the "Age Limit" often an obstacle? (6) Can the poorest parents afford to avail themselves of the scholarships?

The Education Department has addressed a circular to Inspectors of Schools, which appears to have created a new anxiety for the managers of voluntary schools at the moment when they were congratulating themselves on the five-shilling grant. The circular sets forth that in a considerable number of the larger schools for boys and girls there are found groups of children, some of whom are nearly ten years of age, who, at the time of their admission, were "almost wholly ignorant and quite without school habits."

Among the causes for this deplorable state of things may be named, total neglect or irregularity of school attendance in early childhood; the migratory character of some families and their consequent evasion of the attendance officer; an abnormally slow development of intellectual power, in some cases bordering on imbecility; and delicacy of health in early childhood, due often to bad nutrition. There are also a few children with slight epileptic tendencies; and a small number are crippled or paralysed. These classes of children cannot generally be taught with ordinary scholars capable of passing through the First Standard in the course of a year. . . . These children are, as a rule, of a mental type above that suited to the special classes of those of defective intellect; from which classes the large majority of them should be excluded. Separate organization, therefore, is required for their instruction and training.

The circular adds that separate provision for such pupils is to be regarded as indispensable before the higher Discipline and Organization Grant can be awarded; and "in some cases it may be necessary, after due warning, to withhold that grant altogether."

Professor Stuart, M.P., President of the Teachers' Guild for the current year, gave his inaugural address at Norwich on April 26, after the annual general meeting of the Guild.

APPOINTMENTS, &c.

Professor H. W. Hughes, M.B., M.S. (Edin.), has been appointed Professor of Anatomy at King's College, London. —Mr. A. Francis Dixon, M.B., who has been for some years Professor Cunningham's principal assistant in the School of Medicine, has been appointed to the Professorship of Anatomy at Cardiff.—Canon Body, of Durham, has been appointed Lecturer in Pastoral Theology at Cambridge for the year, in the place of the Bishop of Dover, whose health prevents him from fulfilling the duties of that office. Canon Body's discourses, six in number, will be delivered during the month of May.

The Rev. E. J. Bidwell, Senior Classical and Senior Assistant Master of Leamington College, has been appointed Headmaster of the King's School, Peterborough.—The Governors of Drake and Tonson's Girls' Grammar School, Keighley, have appointed Miss Mary Atkinson as Headmistress. Miss Atkinson took the B.A. degree of the Royal University of Ireland with honours in English and German Languages and Literature. In 1891 she became second mistress in the Girls' High School, Kings' Lynn, and in September, 1896, she received the appointment of second

mistress at Keighley.—The Rev. P. R. Cleave, of Felsted School, has been appointed Headmaster of the Preparatory School of Leamington College.—Mrs. Cravie, late of the Aberdeen Collegiate School, has been appointed Lady Superintendent of the hall for the lady students of Glasgow University, and will enter on her duties in July.

Applications for the appointment of Principal of St. David's College, Lampeter, are to be sent in by May 15. Candidates must be in holy orders.—The Headmasterships of the Birmingham Municipal Technical School and the Armagh Royal School are also vacant.—The Principalship of the Home and Colonial Training Colleges, Gray's Inn Road and Highbury Hill, is vacant by the death of the Rev. J. Blakeley Armstrong.

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At a meeting of the Court of the University of Wales, held at Shrewsbury, April 22 to 24, to consider the location of the Registrar's office, after hearing deputations and receiving memorials from various competing towns, the Court decided to postpone the consideration of the question for a term of five years. The Executive Committee, in the mean time, will make arrangements for the acquisition of temporary office accommodation. So there has been much ado about absolutely nothing. The contending towns look rather foolish, but not by their own fault.

Entrance and scholarship examinations for Girton College, Cambridge, will be held in London in June. Forms of entry, which may be obtained from the Assistant Secretary, Mrs. Hale White, 65 Harley Street, W., should be returned filled up, with the examination fees, by April 30.

Two three-year scholarships of £40 each are offered for competition at Holloway College. The first is for the woman student who wins a place in the Honours List at the London Matriculation Examination in June, on the condition that she goes into residence in October and reads for honours. The second goes to the most successful competitor in the Oxford and Cambridge Higher Certificate Examination of next July.

The fourth meeting of the Congrès International de l'Enseignement Technique will be held this year in London, commencing on the 15th of June. The previous meetings of the Congress were—in 1886 at Bordeaux, in 1889 at Paris, and in 1895 at Bordeaux. The meeting will be held at the invitation of the Society of Arts, and of the Drapers', Fishmongers', Goldsmiths', Merchant Taylors', and Clothworkers' Companies. The Congress will be opened at 11 o'clock, on the 15th of June, by an address from the President, the Duke of Devonshire, and from the President of the last Congress, Professor Léo Saignat. The meetings will be held on Tuesday, Wednesday, Thursday, and Friday, from 11 to 1, and from 3 to 5. The subscription to the Congress, for others than Delegates of Foreign Governments, Members of the Society of Arts, or Liverymen of the Companies subscribing, will be five shillings. This will entitle them to a copy of the report of the proceedings.

The *Athenæum* states that the decreasing number of students at the Scottish Universities is creating a certain amount of concern. At one of the four, it seems, there were only eighteen graduates in Arts, last year, inclusive of women.

Both the Cardiff and the Bangor Colleges of the Welsh University have now ceased to arrange special courses in preparation for the examinations of London University.

The new hostel for women students at Bangor University College is practically completed, and will be opened for the reception of students in October.

COLLEGE OF PRECEPTORS.

DISTRIBUTION OF DIPLOMAS, PRIZES, AND CERTIFICATES.

The Public Distribution of Diplomas, Prizes, and Certificates, awarded to the successful candidates at the Christmas Examinations, took place at the College, Bloomsbury Square, on Wednesday, March 31.

The Chair was occupied by the Right Hon. James Bryce, M.P., D.C.L., who was supported on the platform by Mr. H. W. Eve, Dean of the College, Dr. R. Wormell, Vice-President, Mr. Atkinson, Mr. Bayley, Rev. J. O. Bevan, Dr. Bell, Rev. F. Besant, Rev. R. H. A. Bradley, Dr. Buchheim, Mr. Charles, Dr. Findlay, Dr. Gladstone, Mr. Hagreen, Mr. Macan, Mr. Massé, Mr. Musson, Mr. Reynolds, Rev. Dr. Robson, Dr. R. P. Scott, Mr. Armitage Smith, Dr. Turpin, Dr. Weymouth, and others.

The Chairman, in opening the proceedings, said:

Ladies and Gentlemen,—The object which brings us together this afternoon is the distribution of diplomas, prizes, and certificates awarded by this College. I understand that it is usual on these occasions for whoever occupies the Chair to address to the gathering a few observations upon the main aims which the College exists to promote, and upon the present position of those aims and the prospect of any legislation which may bear upon them. In compliance with that custom, I shall have a few remarks to offer to you on the position of secondary education.

But, before I do so, I wish to have the pleasure of congratulating the College upon the state of prosperity in which it stands, and upon the steady growth, which its annals show, in the range and width of its influence. It has risen, both in numbers and also in reputation and weight, by slow, but steady, steps, and in pursuance of its career, which has been quiet, but uniformly useful and judicious, it has now attained an important and weighty position in the educational world. I am sure that all those who are present here will congratulate the members of the College upon its career, and upon the results which it has attained in the past. I am glad to be able to say that, from the information supplied me, the number of candidates who enter for its examinations has gone on increasing. Those examinations were instituted as far back as the year 1854—I think four years before the first Local examinations were instituted by the old Universities. But the number of examinees constitutes by no means the only guarantee of the excellence of the examinations. It might not have been safe to say in all cases, but it is safe to say here, in the presence of successful candidates, that one test of the excellence of an examination is the proportion of those who fail to succeed. I remember, when I was an examiner at the University of London, I was told that my first duty was to pluck as many candidates as possible. I endeavoured to apply a more lenient and indulgent state of mind to the discharge of my duty, and I have no doubt justice is always tempered by mercy by the Examiners of the College of Preceptors. The value of an examination is the greater when the standard is high, and the only way to keep the standard high is to have a pretty large percentage of failures as compared with passes. In the First Class, at the recent Christmas Examination, the percentage of failures was thirty-seven, and in the Second Class thirty-four, which, I can say from my own experience as an examiner, is a high percentage, and it shows that the examiners addressed themselves to their work with much thoroughness, and maintained a high standard. The examinations are largely used by public schools, including endowed schools, as well as by private schools, and they are of special benefit to private schools for girls, which avail themselves of them to a very large extent. Another important branch of the work which the College does is in the granting of diplomas to teachers who have passed examinations in the ordinary school subjects and also in the theory and practice of teaching. These examinations have been held for nearly fifty years, and are largely used. Last year there were 342 candidates, of whom 124 obtained diplomas. Then, further, the College has instituted and maintained for a long time courses of lectures on the science and art of teaching. I believe some of these courses of lectures are delivered by a gentleman whom I have the pleasure of knowing (Mr. Findlay), and of whose competence I have the best possible evidence. These lectures are highly appreciated, although I must own that both they and the other opportunities for training teachers which are afforded elsewhere are not as yet as largely availed of as they ought to be. It will not be until we have some public intervention, and perhaps the establishment of a system of registration for

teachers, that the full importance of this will be recognised by the teaching profession.

The Delay of Legislation.

Within the last few months the College has put those who are interested in secondary education under an obligation by forming a Joint Committee representative of most of the leading educational bodies—nearly all, I think—in order to consider what can be done to promote and shape legislation for advancing secondary education. Now, this Joint Committee, which has already done very useful work in focussing opinion, leads me to say a few words to you about the position of secondary education and the legislation referring thereto. The Committee was formed in order to promote legislation, and I know that all the leading members of the College who are present—in fact, I suppose everyone present whose attention has been called to the subject—are anxious that we should have a Secondary Education Bill. The prospects of a Bill in this session are but scanty, and you will ask me why it is that a subject whose importance is generally recognised, and as to which a Bill was brought in in the last session of Parliament, should now have but little chance of being attended to. If you look at the present state of educational legislation, I think you will see why that is so. One Bill has already been brought in and passed the House of Commons this session dealing with the subject of voluntary schools. That Bill is one which raised very contentious questions, and on which strong feelings were expressed, and it necessarily involved a great deal of discussion. Another Bill is promised dealing with Board schools; that Bill may take up some time, although not so much as the last. Here you have already two Bills concerning education in the present session, one passed the House of Commons, and another about to be introduced. I am afraid the Government will say they cannot undertake more than two educational Bills in one session, and that they are not able to find the requisite time for the third Bill. I am afraid so—I hope they may not—but at the same time it is well to be prepared for that contingency. Now, why is it that a Bill dealing with secondary education should not be considered more urgent, and the Government not be more active in pressing it on? I am afraid the reason is that there is no great amount of political pressure behind such a Bill. In these days, when party strife is very keen, and when, unfortunately, it tends to include more and more subjects within its compass, measures which aim at the general good of the country, and which have not got strong party pressure behind them, are apt to be thrust aside and forgotten. It is extremely unfortunate, but it is a fact which we have to recognise. That which helps a Bill on in the existing state of affairs is that it should be pressed forward by a number of people who have rendered, or are going to render, electioneering services to their party; and, if a Bill, no matter how much good it is going to do the country, and how much it will benefit all classes, is not pressed forward by any particular section enjoying party influence, it has very little chance of being taken up. The very fact that it is outside the range of party strife, and therefore ought to have a good chance of being dealt with in a fair spirit, is the very thing which throws it back. This is the kind of world we live in; this is a condition of our system of party government. Therefore I must warn you that you have this great difficulty to face. Although no party has any objection to a Secondary Education Bill, although there is no ecclesiastical or political controversy turning on the Bill, the very fact that it is not in the interest of any particular section of the community to press forward that Bill as being a boon to themselves, and as a reward for services which they have rendered to their party, makes it the more difficult to get such a Bill introduced.

I have said that this is a great misfortune for the country; that it is one of the penalties we pay for the intensity of party feeling which, unfortunately, prevails amongst us. If we could get a Secondary Education Bill fairly before us, I am persuaded it would pass with comparatively little discussion, because there would be no party opposition. Those who read the Report of the Secondary Education Commission will remember that a man might look up and down the whole of that Report, between three and four hundred pages, and find practically nothing about what is commonly called the religious difficulty. The result of our inquiry was that there was no religious difficulty as to secondary schools. That ought to be a reason for having a Secondary School Bill, but it is actually a reason why we are not likely to have it. At the same time, I venture confidently to predict that, if we could have such a Bill brought in, the absence of the religious difficulty would enable the Bill to be very quickly disposed of. We should, no doubt, have some discussion as to the constitution of local authorities—that is an important question, and the competing claims of Borough Councils and School Boards would require to be fully considered—we should have some discussion on a number of details on the method, if there be a method, of drawing a line between elementary and secondary schools—but these questions would, I think, not take up a very great deal of time. I believe I am not too sanguine in suggesting that four to six days of Parliamentary time would be sufficient to pass such a Bill through the House of Commons. That is not a very heavy demand to make, when you consider how great are the interests which such a measure would tend to promote.

Public Schools.

Now, ladies and gentlemen, I know—for it would be idle to conceal it from you—that when I speak of a measure for the promotion of secondary education I touch a subject upon which there are, among many members of the educational profession, some searchings of hearts—there are points connected with such a measure which excite apprehension, I might almost say alarm, in certain branches of the profession. I do not think, if such apprehensions exist, that we ought simply to look them boldly in the face and pass them by; but we ought to strive to overcome them, and I propose, therefore, to tell you plainly what I believe those difficulties to be, what those apprehensions are, and how we should grapple with them. This is a very suitable place to do so, because the College of Preceptors has the good fortune to represent amongst its members the interests both of endowed public schools and also of private schools, and I suppose there is nobody in this country who has so good a title to represent the large body of private schoolmasters as you have. Now what are the apprehensions that schoolmasters feel with regard to possible legislation? I have heard some masters of endowed schools—I will take them first—express the apprehension that local authorities might interfere too much with the management of endowed schools, and might prove too arbitary, too despotic, too meddlesome in dealing with them. I do not think, on the whole, looking at the past history of public bodies in reference to secondary education, that that is likely to follow, because I would point out to those masters of endowed schools that, in the cases in which endowed grammar schools have been managed by, or partly by, such public bodies as Town Councils, the Town Councils have not, as a rule, formed bad governing bodies, and the members appointed by them have been useful members. They have brought the local community in its public capacity into touch with the schools; they have interested themselves in the welfare of the schools, and their presence has been found to be valuable. I should not apprehend any harm to endowed schools from the constitution of local authorities from County Councils or large municipal bodies. Further, the masters of endowed schools must remember that it was an essential part of the scheme propounded by the late Royal Commission that the action of local authorities should be subject to the supervision of the central authority in London, and that, where any one considered himself aggrieved by the action of the local authority, he should have a right of going to the central authority and stating his case to them, and that the central authority, by remonstrance and advice, might help the local authorities to discharge their duties, and would prevent any tendency that might otherwise exist to undue interference. This would be a valuable part of the reorganization of secondary education, and I feel sure that the influence of a central office, cautiously and prudently directed, would be found quite sufficient to relieve the masters of endowed schools from any risk of such interference as a few of them apprehend.

Private Schools.

Now, to come to the apprehension which is felt by the masters of private schools. I believe it consists chiefly in this: They think that, if local authorities were set up charged with the duty of providing a sufficient supply of good secondary education in every local area, there might be a tendency to start schools which would unfairly compete with existing good private schools, and that, these schools having public funds at the back of them in the shape of rating powers, there must be the danger that the good private schools would be driven out of the field. I put that in the strongest way I can in order to make sure that I am giving it its full weight. I do not know how widely it is entertained, but, if it is entertained at all, it deserves to be considered. Let us see what amount of weight there is in it. Let us take two classes of cases: first, the case which already exists in many

towns—because it is practically with reference to towns only it could arise—of an endowed grammar school. I believe you will find in this case private schools are able to hold their own against even a good endowed public school. There are not a few towns where there is a good endowed school, having the benefit of its endowment, where, nevertheless, side by side with it, efficient private schools live and flourish. It is clear the mere existence of an endowed school with funds behind it is not sufficient of itself to drive private schools out of the field. Where an endowed school exists there will be less reason why the new local authority should start fresh schools, because they have already got the provision of an efficient public school. Therefore I dismiss that class of case, because I do not believe that where an efficient endowed public school is already at work, and where private schools are holding their own against it, the private schools need run any more risk from the proposed new system than they do at present. Let us take the other case—where there is no efficient public school at present. In those cases it will no doubt be the duty of the new local authority to provide efficient secondary education; but the Commission recommended that that new provision of secondary education should be made with reference to existing provision, and the Report proposed that it should be the duty of the local authority to ascertain what provision already existed; that is to say, to consider the extent to which the ground is already covered by the efficient private schools. Further, you will at once see it is the last thing a local authority is likely to set itself to do — to establish new schools and support them out of the rates at the expense of the ratepayers in order to compete with existing private schools which are already doing good work. The last fault that local authorities are likely to commit is the fault of laying fresh burdens on the ratepayers for objects which are not of prime necessity. There is little parallel between the cases of elementary schools and secondary schools, because the provision of elementary schools has been a matter of prime necessity, whereas the provision of secondary schools must be regarded in connexion with that afforded by private schools. It is far more likely that the new local authority will err in the way of omission than otherwise; the danger is that they will not be sufficiently prompt in providing for deficiencies which do exist rather than that they will try to compete with the existing efficient schools, and impose a needless burden on the ratepayers. You must remember also that there will exist a central authority, and the central authority will have a right to interfere if it is appealed to by private schools which allege that, although they are giving efficient secondary education, that secondary education is not recognised by the local authority. In making that proposal the Commission surrounded the local authority in the exercise of their powers with safeguards which the private schoolmaster ought to bear in mind when considering the probable effect of legislation. Generally speaking, I believe that the local authority will not act unless where there is a clear deficiency, and, where there is, it will act slowly in imposing a burden on the ratepayers to supply that deficiency. I do not think there is a danger of good private schools suffering. I should like to remind private schoolmasters, as there are doubtless some here present, that there are considerable countervailing benefits to accrue to their branch of the profession if the recommendations of the Commission are carried out in an Act of Parliament. The Commission recommend at page 293 of their Report that public recognition should be given to private schools. That public recognition would stamp the schools as being in the opinion of the local authority good schools—a kind of stamp which many an efficient private schoolmaster would be glad to have. It would confer three tangible benefits on their pupils: first, pupils of these recognised private schools would be admitted to compete for scholarships or exhibitions; they would be admitted to examinations which the local authority would establish; and any scholarships or exhibitions which the local authority might create would be tenable at the private schools no less than at public schools. Therefore you would have three clear and tangible benefits which would accrue to private schools from the recommendations of the Royal Commission. In addition to that, the effect of the reorganization of secondary education would be a great stimulus to it in all its departments. It would bring about a sensible improvement in the status of the teachers. It would result in a better provision than exists now, and a more widely diffused interest than exists now, in professional training, and there would be the establishment of registration. To secure all these benefits would be a great thing for every branch of the profession. When I add that I believe the provisions enumerated would give complete security to private schoolmasters, I hope I am not going too far in appealing to them to give us their support to endeavour to induce Parliament to pass such a Bill as I have endeavoured to sketch out.

The Guarantees.

One ought not to leave this part of the subject without saying that the establishment of a central authority would be an essential part of such a scheme. Unfortunately, the Bill of last year did not provide for a central authority, and many experienced schoolmasters felt that that was a defect in it. If we have another Bill, I trust we shall have some such provision. I need not remind you how very urgent the matter is. I need not remind you how great the commercial bodies of this country, such as the Chambers of Commerce, feel to be the need of a better education, both special and general, for young men entering business. The Association of the Chambers of Commerce passed a strong resolution upon that subject at their meeting a fortnight ago. I need not remind you how many vested interests are being daily created, which make reform more difficult. I need not remind you how great a waste of money is going on, and how much difficulty is being created by the competition and collision, one may say, of the authorities that provide secondary education and those that provide elementary education. All these things make it desirable that we should deal with the subject at the earliest possible moment. I therefore hope that not only the influence of this College collectively, but such influence as you can individually exercise, will be exerted to make the Government and Parliament realize more clearly than they have yet done that, although this matter has perhaps no party momentum behind it, it has what ought to be dearer to us, the wish and feeling of all those who have noticed the defects in our system of education, and who feel how great an impetus would be given to the progress of the country if those defects were removed.

The "Work of Life."

I ought to apologise to the younger members of the audience for the length of time which I have kept them in listening to this discussion on a subject which is hardly within the immediate range of their knowledge; and now I must say a few words to them before we come to the prize distribution. It is a difficulty inherent in gatherings of this kind, where the audience is composed of two different sections, that matters referring to legislative topics, addressed to the senior members, cannot be of interest to the younger members, because they have never had their attention directed to the subject; whereas, on the other hand, the remarks and advice which one is expected to offer to the younger members cannot be of interest to the senior members because they must have heard such remarks many times before. That is a difficulty I cannot hope to overcome, but I will appeal to the senior members to pardon the fact that they have heard such reflections before, because it is probable the younger members have not heard them before, and are not likely to hear them so often as we unfortunately have to do. To those who are receiving prizes and certificates, let me say that those who have long since passed the days of examinations and prizes and certificates congratulate them very heartily upon the success they have attained. We hope, and believe also, that the success they have won now is an augury of success which will attend them when they enter into the larger struggle of life. No one would bestow unqualified praise on competition, which has a power of evoking some of the less noble, as well as the nobler sentiments. Still the preparing for an examination requires not only intelligence, but a considerable amount of assiduity and self-control. These are the qualities which have most to do with progress and success in any walk of life to which young men may betake themselves. What I should like to say to the young people present is chiefly this: they must not suppose that their education is closing when their school time comes to an end. On the contrary, their education is only beginning. The chief object of school study and examination is to teach them how to read and think for themselves, and, if it has not given them the zest for reading or study, and the desire to think out and follow up a subject, it has failed in one of its important objects. You must in after life put in practice that which you have been doing under the advice of your teachers. Perhaps the most critical years of life are the years which pass just after one has left school; they are the years when the habits of reading and of taking an intelligent interest in what one reads are chiefly formed, and, if the habit of reading and taking an interest in things is dropped during those years, it becomes extremely difficult to revive it afterwards. The facilities are now larger than they used to be,

as we have a greater number of classes and lectures and public libraries than we used to have, so that it is comparatively easy for every one to keep up his reading and interest in any intellectual pursuit. It is not a bad plan to begin to choose a particular line of study in which one feels a particular interest—such, for instance, as a branch of natural science, or natural history, or of history itself, or of political economy—and to devote one's self mainly to it without abandoning interest in other subjects. Reading becomes more profitable and the enjoyment greater if one directs one's energies in this kind of way. You are apt to be told on all these occasions that the great thing is to turn your education to practical account for the actual work of life. I do not say that is untrue if you give large enough meaning to "the work of life." The work of life does not consist of the work of a profession or employment—it is all very well to throw one's self into professional employment, but that is not the whole of life. A great deal of life is outside the office or counting-house; the germination of ideas which goes on in your leisure hours has quite as much to do with the enjoyment of life as what you do in practical occupation. The examinations you have passed, and the certificates and prizes you have won, will be of great value to you if they have formed those habits which will make you go on reading, and if they have given you the zest for some intellectual pursuit which you can make a pleasure and enjoyment for yourselves in days to come.

The diplomas, prizes, and certificates were then distributed; after which the Dean of the College, Mr. H. W. Eve, said it was his very agreeable duty to propose a vote of thanks to the Chairman, and he did not know that he ever made such a proposition with greater pleasure. He trusted that the boys and girls who had received prizes and certificates from the hand of Mr. Bryce would not forget the occasion, as they had been brought into contact with one of the greatest men of the day. The Chair had been occupied by distinguished statesmen and distinguished men of letters; but Mr. Bryce was equally distinguished in both capacities. He was also a traveller to whom the United States was as familiar as his own country, and the first person since Noah who had set his foot on the top of Mount Ararat. It was not his intention to follow Mr. Bryce through the very lucid exposition he had given of the probable results of legislation—an exposition which was the result of many years' study, and of the continuous and judicious work of the late Commission, over which he had so ably presided. One point in particular which had struck him was that, besides many guarantees, good private schools would find that under any well-considered legislation they could do nothing but gain from the increased stimulus which must be given to secondary education. Englishmen were very adverse to making clean sweeps and paper constitutions; they always did their best to utilize existing resources. He could not conclude without saying one word of congratulation to his friend Mr. Bayley, whose boys appropriated one-fourth of the honours of the First Class. He did not think that any rate aid, any endowment, or any County Council, would succeed in producing better results.

Dr. Wormell, in seconding the vote of thanks, said he was very grateful to the Chairman for his lucid argument and for the stimulus that his ideas afforded. The address was just what was wanted at the present time. Many of them, who had been anxious that something should be done to improve secondary education, had been plunged into a state of great depression of late, and it was not to be wondered at, as legislation seemed to be further off than ever. Even the poor little Bill for the registration of persons qualified to teach in secondary schools seemed to be lost; nobody seemed to know anything about it. Whether it was sick, or dead and buried, nobody seemed to know; at any rate, it was not moving at all. There seemed to be nothing left to talk about. They had exhausted every argument, and their arguments seemed, to themselves, to be such as no enlightened Government could set aside. They had now used up and worn out the Report of the Royal Commission, and had even used up the Commission itself in one sense, for every available member had presided over these meetings, until at last they had reached the Chairman. What were they to do next? These things had brought many into a great state of depression, from which the Chairman's practical argumentative speech, he hoped, would raise them. He himself had been trying to draw a little comfort from a tale by Dr. Johnson which he had often read with great interest. It began thus:—"Ye who listen with credulity to the whispers of fancy, and pursue with eagerness the phantoms of hope, who expect that the deficiency of the present day will be supplied to-morrow, attend to the history of Rasselas." How did the story end? It is a tale of a prince and princess who left barbarism and went in search of civilization; they interviewed everybody who they thought could tell them anything, and they interviewed those who in the language of the present day would be termed experts in education. But what was the end of it all? The princess was led to believe that of all sublunary things knowledge was the best, and she wished to devote her time in the future partly to the acquisition and partly to the communication of it, that she might raise up in the next age models of prudence and patterns of piety. But Johnson said they all knew that of the wishes they had formed none could be attained, so they resolved when the inundation was over to return to Abyssinia. So it seemed in this case. Before this meeting he himself had thought there was really nothing left but to leave off talking and to go back to Sleepy Hollow, to barbarism and to chaos. However, the Chairman had put new life into them, for evidently he was not without hope that, if not in this session, at any rate at no great distance, they might have a Secondary Education Bill. But, if this end was to be attained, the Chairman had clearly proved to them that they must arouse themselves and make their voices heard again as they had been heard before.

The vote of thanks having been passed by acclamation, the Chairman, in reply, said: I thank you very much for the vote which you have been kind enough to pass, which I can assure you more than repays me for anything I have done, and I thank my old friend, Mr. Eve, for his too flattering words. Dr. Wormell has stated that we have now come to the end of the members of the Royal Commission, and the fact that I am presiding over this meeting reminds me of an anecdote. There was at the City of Frankfort a great hall covered with pictures of all the German Emperors. Towards the end of last century all the panels of this hall began to be filled up with pictures of the successive Emperors, and the people began to be uneasy as to what would happen when the last panel was filled. So things went on till every panel was filled, and what happened next was that the Empire itself was destroyed and came to an end. I hope you may argue from that, that, now that you have exhausted all the members of the Royal Commission, the subject of legislation on secondary education will come to an end—by the passing of a good Bill. I also thank the younger members of the audience for the patience with which they have listened to what may be a comparatively uninteresting subject to them. It will be an excellent training for any one of you who thinks of entering the House of Commons to cultivate thus early the habit of listening with patience to disquisitions on topics in which you have not yet begun to feel the slightest interest.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A meeting of the Council was held at the College, Bloomsbury Square, on the 10th of April. Present—Dr. Wormell, Vice-President, in the Chair; Rev. J. O. Bevan, Mr. Brown, Mr. Butler, Mr. Charles, Mr. Chettle, Mr. Eve, Mr. Harris, Miss Jebb, Dr. Maxwell, Mr. Montgomery, Mr. Pinches, Mr. Reynolds, Rev. Dr. Scott, Mr. Sergeant, and Mr. Walmsley.

The minutes of the last meeting were read and confirmed.

The report of the Finance Committee was adopted.

The report of the Examination Committee was adopted.

The following persons were elected Members of the College:—

Mr. W. T. Biggadyke, A.C.P., Grammar School, Goole.
Mr. W. S. Chivers, A.C.P., Abingdon Road School, Somers Road, Southsea.
Miss M. E. Everitt, A.C.P., Convent of the Ladies of Mary, Croydon.
Mr. W. H. Hill, L.C.P., Great Ealing School, Ealing.
Mr. E. W. S. May, A.C.P., 2 Chantry Road, Brixton, S.W.
Mr. E. Ralphs, A.C.P., Diocesan School, Hong Kong.
Miss A. B. Ridge, A.C.P., 18 Carlton Road, Putney Hill, S.W.
Miss M. Taylor, Temple House, Derby.

The following books had been presented to the Library since the last meeting:—

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By the Cambridge Local Examinations and Lectures Syndicate.—Thirty-ninth Annual Report of the Syndicate.

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COLLEGE OF PRECEPTORS.

EVENING MEETING, APRIL 14, 1897.

The Chair having been taken by Mr. H. W. Eve, Mr. FRANCIS STORR, B.A., read a paper on

THE TEACHING OF ENGLISH COMPOSITION.

ALL the books on method, as far as I am aware (and I have consulted a considerable number in preparation for this lecture), treat grammar and composition as coordinate subjects. Joseph Landon's "Principles and Practice of Teaching," for instance—which, I believe, is still the standard text-book in training colleges—lays down as axiomatic that "The practical study of composition of an easy kind may be begun earlier than the study of formal grammar; but, when the latter is taken up, the two subjects should be taught side by side. Such truths as the pupil learns in the one he should be called upon to apply in the other; and his knowledge of these, if properly appealed to, should put him on the alert against inaccuracies, and give further meaning and force to the teacher's criticism." And the last book of the kind I happen to have seen, J. Gunn's "Class Teaching and Management," pronounces even more dogmatically: "Composition and grammar must be taught together. Any attempt to separate them will lead to failure in both."

It would be tedious to multiply authorities. I can find no instance to the contrary. The official handbooks are unanimous, and I infer therefrom (you will correct me if my inference is unfounded) that the method they advocate is that commonly followed in secondary schools where the subject is attempted as it is in elementary schools; that composition is, in the main, taught as an exercise in word-building and syntactical structure, either as a preparation for, or a deduction from, grammar.

COMPOSITION WITHOUT GRAMMAR.

It is against this doctrine that I wish to-night to utter my emphatic protest. It may be that I am tilting against windmills; that the practice of the school has outrun the theory of the training college; that these orthodox manuals represent merely the fossilized remains of prehistoric codes. I heartily hope it is so; yet what is bred in the bone will not out of the flesh, and I fear the grammarian is still abroad, if not so blatant as he once was. There's a lot of human nature even in the new schoolmaster.

It is so much simpler and easier to shell peas than to grow peas, to set to work at the treadmill than to drill an awkward squad, to teach boys to supply subject, predicate, and object, as in a missing word competition, or even to fill in correctly the hundred pigeonholes of a table of grammatical analysis, than to train them first to think and then to express their thoughts in speech or writing. And yet we are coming to see more and more clearly that this is the end and aim of mental discipline—not only that reading and writing are in themselves naught, mere instruments, but also that grammar, history, geography, and even science, must be made subservient and subsidiary to this ultimate end; that a pupil, though he may have passed the Preliminary, Junior, Senior, and Higher Locals, is still a failure if he has not learnt to think and to express his thoughts.

Granting this, we have to inquire whether the study of grammar is calculated to promote this end. Far be it from me to "deny its use thoughtfully taken" (as Calverley says of tobacco). It is an exercise in thought, and, if taught as it should be, inductively, may be made a very valuable exercise; and it is a

rudimentary lesson in logic. But, as an exercise in expressing thought, I consider it of little or no value. It may become even a hindrance, by directing attention exclusively to the form and construction of sentences apart from their contents or meaning. Which of us, I would ask, ever turns to his English grammar, or thinks of a grammatical rule when he is writing a letter or a lecture? Nor is it true, as may be urged in its defence, that we apply unconsciously the rules that were dinned into us at school. I never had seen an English grammar till after I had left college, and the same would be true even now of the vast majority of public-school men. The only use of grammar under this head, as far as I can see, is that it enables the master to nail the bad coin to the counter, to show little vulgar boys why they should not call out, "That's him." Assuredly it will not prevent them from so doing in the first instance.

And as a set-off to this advantage I may point out that it is not unlikely to encourage the pedantic schoolmaster to lay far too much stress on such trifles, or even to correct the little vulgar boy for saying, quite correctly, "It's me." I am not speaking without book. Professor Nichol, in his very meritorious little "Primer of English Composition," condemns the phrase as a solecism, pronounces "than whom" equally a solecism, takes upon himself to emend the English of Shakespeare, Milton, Gray, Gibbon, and the Bible, and trounces, as common English vulgarisms, *pell-mell, topsy-turvy, to cast in his teeth, to slip through his fingers, to turn an honest penny, to curry favour, to dance attendance, to fall out.* Beware of pedants, beware of preciosity!

A very famous grammarian lately deceased was once conducting a *viva voce* examination in grammar. One of the examined ventured to argue a point with his examiner and to cite in defence Morell. He was promptly suppressed by the irate Doctor, who shouted at him: "Don't you go and talk to me of Morell, you young impertinence; Morell don't know nothin' about grammar!" There is a story told of Thackeray which seems to make against my argument. Asked once to write in a lady's album, he found as the last entry some doggrel lines of Albert Smith:—

> Mount Blanc is the monarch of mountains,
> They crowned him long ago;
> But who they got to put it on
> Historians do not know.

Whereunder Thackeray wrote:

> Albert no doubt was in a hurry.
> To criticise I don't presume;
> And yet I think that Lindley Murray
> Instead of "who" had written "whom."

Thackeray is one of the purest and correctest writers I know, and Albert Smith is among the most slipshod; but, in spite of the lines I have quoted, I venture to affirm that Lindley Murray had as little to do with the making of the one as with the marring of the other.

Perhaps I have laboured this point too much already, but, before I pass on and try to point out a more excellent way, I would invite the aid of a powerful but somewhat dangerous ally to show that I am not fighting single-handed against grammar. With much that Dr. Bain says on the teaching of rhetoric and composition I disagree, and will, if time permits, give my reasons for disagreeing; but his views on grammar teaching, and its relation to composition, seem to me sound and sensible; and I chose out Dr. Bain because, in spite of his anti-classical bias and lack of literary skill, he is the first English writer to treat education—the whole and not a province of it—as a science. Well, then, Bain tells us that it is futile to begin teaching grammar before the age of ten at earliest. "It is the worst economy to anticipate the mind's natural aptitudes for any subject: and the aptitude for grammar in its true sense does not exist at eight or nine years of age." In Bain's opinion grammar is more difficult than arithmetic, and on a par with the beginnings of algebra and geometry. "Grammar and rhetoric," we further read, "are not separated by any hard and fast line, yet the two departments are distinct. To be grammatical is one thing; to be perspicuous, terse, or unctuous [who wants to be unctuous?] is another thing." I hope I have convinced any who need convincing that composition must be treated as a separate subject, not as an appanage or development of grammar or as a series of riders to or deductions from the formal rules of language.

I pass with some diffidence from the destructive to the constructive part of my argument. I have had no practical experience of the earlier stages of composition, with which I am attempting to deal. I can only attempt to indicate certain guiding principles which each master must work out in his own way. And, at the risk of seeming to be offering lame excuses for ignorance and incapacity, I will point out at starting one advantage that a vague and general treatment of the subject possesses. Knowing the importance that is attached to rhetoric in French schools and the marvellous success that French masters attain in this subject (the average Frenchman, *teste* Matthew Arnold, writes his native tongue far better than the average Englishman), I applied to M. Marion to inform me what were the recognised text-books employed in French *lycées* and *collèges*. M. Marion answered: "I can tell you of none. That class of books is almost obsolete. The professor must be his own manual. If he himself has a true appreciation of literary style, and the ability to express himself, he will inspire his pupils with the same literary taste, he will serve as their model. No text-book can take the place of the living master."

First Attempts.

M. Marion's opinion, which I fully endorse, leads directly to my first proposition. Composition is a practical art, acquired, not by rule, but by imitation. It is by imitation alone that a child learns to converse, and his conversation will be correct or incorrect, elegant or vulgar, according as he has been conversant with well-bred or ill-bred people. Now composition in its earlier stages is, or ought to be, *une conversation par écrit.* It would seem to follow that, if our pupils can be made to talk well, half the battle of writing, and in the case of elementary scholars the whole battle, is won. But, as you all know to your cost, this theory will not hold water. If, like Rousseau's Emile, each pupil had a governor told off to him, I think all written composition might well be deferred till the age of thirteen or fourteen. But, with a class of forty or thirty, or even with a class of twenty, the conditions are wholly changed, and the natural method of oral composition must needs be supplemented by writing. *On devient forgeron en forgeant*, as the French proverb has it—you won't become a smith by being in the smithy or even by watching the blacksmith at work. The *idola theatri* may be broken in the class-room, but the *idola specus* will persist. Each boy has his personal equation, and must be worked out separately if any real progress is to be made. To spell correctly, to punctuate, to avoid solecisms—these, indeed, are acquirements which may be taught to a class as a class, and they quite suffice to satisfy the ordinary examiner, but this is not what I mean by composition. The expression may be perfect because there is next to nothing to express. The clothes may fit because they are cut to fit dummies. The only way in which the master of a large class can learn the bent and bias of individual scholars and train each in the way he should go is by making them reduce their thoughts to writing. But in my opinion this exercise had better be deferred to the last year of preparatory school life, and I believe it would be found that the boy who had been properly practised in oral composition only till his last year would, in the end, outstrip the boy who had been set essays from the knickerbocker stage upwards. We are apt to forget what a strain the mere mechanical exercise of writing puts upon a child's power. His attention is mainly absorbed by pothooks and hangers, capitals and little letters; to spell "school" requires such an effort of memory that when he has succeeded in writing it down correctly he has probably forgotten what he meant to say about it.

I received not long ago from a humble friend of mine, the ostler of a village inn, a letter of thanks, a single page of large round-hand. On next visiting the inn, I learnt from the landlady the genesis of that letter. William, she told me, devoted a whole evening to the composition, and the beads of sweat stood out on his forehead as he wrote. On ending his task, he exclaimed that he'd liefer any day mow two acres of grass than write a letter. Our infant essayists share William's feelings.

The first exercise in composition will naturally be the reproduction of a short story—an anecdote, a fable, a fairy tale. And here it seems to me the danger to be guarded against is the almost verbatim reproduction of what has been read or told. Such an exercise is likely to become a mere test of memory. In order to avoid this danger, I would have the master not read the story from a book, but tell it, with remarks and questions interspersed. If the story is longer than can be fully reproduced in the allotted time, so much the better. In any case, it is pretty certain to be clipped and curtailed (as in the game of Russian Scandal) by all but the best pupils; but, if it is intentionally made too long for reproduction, it will discriminate the sheep and the goats. The clever boy will seize the points, the stupid boy will remember only the accidentals.

From this it is an easy stage to *précis* writing; and I know of no more useful accomplishment. The boy who can analyse a chapter of history, or give the heads of a lesson that he has heard on some science subject, has mounted the first rung on the ladder of learning.

Imitation.

As a transition from this to original composition, I would suggest the direct imitation of passages from standard authors with which your pupils have become familiar in their reading-books. Suppose they have been reading the fable of "The Fox and the Grapes": let them imagine a fox eating ripe grapes and telling his brother fox that the grapes are sour, and frame a fable accordingly.

They have just read in their geographies a description of the Ganges: let them write a similar description of the Thames. Or let them model an account of a cheap jack on Moses and the green spectacles. I need not multiply instances. The point to be aimed at here is to encourage them to reproduce as closely as they can the manner and style of the original. At first much guidance will be needed; but you will be very unlucky if you do not have some boy in your class with an instinct for literary style. Read out his composition. The force of example will work marvels. I won't promise you that the whole class will follow, like Panurge's sheep, but all the better sort will say to themselves, "Tommy Dodd's done the trick, and I don't see why I shouldn't. Anyways I'll have a try." Perhaps this is the most convenient point at which to consider what to my mind is the very crux of the problem, the looking over of composition. It is a problem that I have myself failed to solve quite satisfactorily, even with a class of twenty. You will all agree that unless essays are carefully looked over and marked their profit is very small. But I would go further than this and say that the good they do to the pupil is at least doubled if they can be looked over individually. I know that under the existing circumstances of grammar schools and high schools this is an unattainable ideal. Yet, even if you are teaching a class of forty, you will find it quite possible to pick out half a dozen of the most promising and two or three scapegraces and administer individual blame or praise. The exercises must, of course, be looked over out of school and scored, not necessarily corrected. I have no great belief in correction of this sort. Boys, as a rule, won't read them. If you have your own abbreviated symbols for bad spelling, bad punctuation, bad grammar, bad logic, and so forth, I should think you might polish off a set of forty in a couple of hours or so, adding a word or two at the end by way of final verdict.

And let me implore you from the very first stage not to set too much store on the calligraphy, the punctuation—the anise and cummin of composition. Let one original remark, one aptly turned sentence, wipe out a multitude of peccadilloes. Mistresses, I have observed, are specially prone to this false estimate on which I am animadverting—the great fault of woman is over-conscientiousness. I have seen a bright clever essay marked nought because the young essayist was weak in her spelling and had written over the margin, and a faultily faultless platitudinarian who had crossed her *t*'s and dotted her *i*'s get full marks. We of the male sex, I have no doubt, go into the opposite extreme, and are careless of legibility and tidiness, which are not, indeed, the whole duty of man, but are yet worthy of attention as one of the conveniences and amenities of life. It may, I acknowledge, be said of us: "These things should you have done, and not left the other things undone." Though many of our great authors have written illegibly—most, I think, of those who have been educated at public schools—there is no necessary connexion between genius and illegibility. Yet, because inspectors, examiners, and officials generally attach such undue importance to writing and spelling, I would urge you to overlook such failings and imperfections if the root of the matter is there. Time will correct them; but no time will correct a radical want of thought.

The same remark applies with even more force to the vulgarisms and colloquialisms of which you are sure to get a plentiful crop in your pupil's essays. "A lot of things," "awfully jolly," "a beastly nuisance"—these are the unpardonable sins in the school ma'am's eyes. At an early stage I should let them pass without comment. They are the child's native language; and to point out that the language he hears at home is not always classical English, and, further, that literary language differs from colloquial language—this belongs to a later stage of development. It is a bad bargain if we secure propriety at the expense of naturalness.

Original Composition.

I pass on to the last branch of my subject, the essay proper, or original composition. Originality is a comparative term, and I need hardly premise that it would be absurd to expect originality, in the strict sense of the word, of boys and girls. At best they can only resemble the busy bee, not the spider. They have, so to speak, no entrails as yet to spin from. The materials for the essay must be supplied to them, or you must be assured that they are ready at hand for them to take themselves. Their originality, such as it is, will consist in collecting and arranging the materials. Bearing this in mind, we shall set such subjects as come home to boys' businesses and bosoms—to borrow Bacon's description of his own "Essays." If they are London children, we shall bid them describe the street they live in, the shop they deal at, the omnibus and tramcar, the costermonger and organ-grinder—in brief, the sights and surroundings of their daily life. There can be no lack of descriptive subjects. Only one caution seems to me needed. Do not seek to pry into a boy's intimacies. Do not, for instance, ask him to describe the house he lives in (a subject, I observe, that inspectors are fond of setting). Very probably he is ashamed of it, and will either write nothing or lie; and I, for one, cannot blame him for lying. I should be chary even of asking him to write on his favourite book or picture or landscape. Boys are shy, much shyer than girls, and to analyse their sentiments, even if they are capable of it, is a process that they hate. *Maxima debetur pueris reverentia*, is true in more senses than was intended by the satirist. On the same principle, I object to one of the regulation forms of composition—a letter. Teach your boys, by all means, the common epistolary forms—how to apply for an appointment or send in an account to a customer. That is a most useful accomplishment. But don't ask them to write to their mother on her birthday, or describe their school life to a brother in Australia. The greater their affection, the stronger their real feelings, the more they will disguise them and take refuge in common-place.

But, though I bar sentiment, I would by no means confine the subjects of essays to description. With boys of sixteen to eighteen I have found, perhaps, the most attractive class of subject—the one which produces the most thoughtful essays—to be moral problems, either actual or historical: "Is is ever right to tell a lie? Under what circumstances is rebellion justifiable? The pros and cons of competition." And I think there would be little difficulty in devising simpler problems of a somewhat similar kind for an earlier age. Civism seems to me to offer a fruitful field to work. A boy of twelve is quite capable of discussing whether Hampden was justified in resisting ship-money, and even of arguing whether a Quaker would be right now in refusing to pay a war tax. With a little guidance, he may even discuss such vexed subjects as capital punishment, universal suffrage, the Poor Law. No matter if the treatment be superficial or partial. It is enough if his interest is aroused—and I am certain that it will be—if he is stimulated to think or to express his thoughts. If it begins to dawn on him that history is nothing but past politics, and politics nothing but history in the making, the discovery will be to him a revelation as startling as that of the Röntgen rays to the man of science.

Nearly every school subject, when the three R's are passed, will lend itself to composition, but not in the same degree. For the higher stages, as I have already hinted, we shall draw mainly on biography and history, including, in the latter, civism. The choice of subject, however, is comparatively unimportant; what is all-important is that, whatever it may be, it should be led up to by the teacher. What I like to do myself is to have a casual talk with the class before I set the essay for the week. I try to put myself at their level of blank ignorance at starting, to show them what it is they have to tackle, to suggest various ways of tackling it, and to convince them that they are not so ignorant as they think, that all they are really called upon to do is to evoke and coordinate their existing knowledge. The aphorism that the composition teacher should never lose sight of is: *Si rem tenes verba sequentur*—if the idea is firmly and clearly grasped, expression will follow as its shadow. Confused or slip-slop writing is mainly due to muddleheadness. I always tell my pupils first to jot down their ideas in the rough, then from these to construct a skeleton, a scaffolding—"firstly, secondly, thirdly, in conclusion," just like an old-fashioned sermon—and then, and not till then, to begin writing their essay. The less trace there is left of the scaffolding, the better; but this a counsel of perfection. The first point I look to in an essay is whether it has a backbone. The invertebrate essay, though full of wit and wisdom, only gets a second class.

Further, I would have each pupil for each essay make his own skeleton. The common forms supplied by "the complete essay writer" and similar manuals seem to me positively harmful. They are a bed of Procrustes, and "cabin, crib, confine" all originality.

The same criticism applies in a lesser or greater degree to the numerous attempts that have been made, and are still making, to methodize instruction in English composition. I take Bain's book as one of the most popular. He starts off with Figures of Speech, explains and illustrates Personification, Metonomy, Synecdoche, Apostrophe, and so forth. Now, I hold that a knowledge of these figures, or at least of the more common of them, such as simile and metaphor, is almost essential for a proper appreciation of poetry, but I confidently maintain that it will not help a boy one whit towards writing English prose. The teacher may, indeed, peruse it with profit and gain very useful hints, enabling him to point out to a pupil where his style is defective or faulty, but to make the matter follow the manner, to demand an essay illustrative of hyperbole or innuendo, the pathetic or the ludicrous, is to put the cart before the horse.

There are two or three other books I should like to mention, in case you have not come across them, that I have myself found helpful. Abbott's "How to Write Clearly" you probably know. He, unlike Bain, practises what he preaches, and had had experience in teaching boys, which, I believe, Bain had not. Another less-known book is Dr. Hodgson's "Common Errors in English." It is a wonderful *répertoire* of the slips to which all of us are liable, and it is delightful to catch the *Saturday Review* tripping—the *Saturday Review* of the brothers Stephens, of Freeman and Saunders, not the financial organ of to-day—and see it hoist by its own petard. To give a selection of these solecisms to be corrected will be a good occasional exercise. Legouvé's "L'Art de la Lecture" is another delightful little book, though it refers only indirectly to my subject.

Paraphrase and Verse.

Lastly, I would discuss very briefly two subsidiary forms of composition. On paraphrase teachers are divided into two opposing camps, and when such past masters as Dr. Fitch and Professor Laurie hold diametrically opposite views, it would be presumptuous in me to dogmatize. I can only say that in my own experience I have found it a most useful exercise. Its primary use is to show that the pupil understands the full meaning of a passage. It reveals vulgar errors and misconceptions as nothing else can. For instance, I remember setting to the Marlborough Sixth Form a paraphrase of the "In Memoriam" stanzas beginning: "So careful of the type," and thus discovering that one youth, by no means generally stupid, thought that Tennyson was comparing Nature to a compositor in a printing office. This, however, is an incidental advantage, and its main use from our present point of view is to teach boys to express the same thought in different ways, to turn poetry into prose, to bring out latent metaphors, to simplify an involved period, and so forth. The usual objection raised against it is that it involves a change from good to less good, that it is a degradation, a profanation of a great author. Is it not arguable, on the other hand, that the very imperfection of the copy serves to emphasise the perfection of the original? No one objects to an art student's being set to copy in black and white an antique statue: why should we object to a literary student's being set to reproduce in prose a speech from Shakespeare's plays or a sonnet of Milton's? Of course judgment is needed in choosing fitting passages. A prose rendering of "God made Himself an awful rose of dawn," would be a *reductio ad absurdum*. I may add that the exercise of paraphrasing seems to me especially valuable in schools where no foreign language is taught, as a substitute for the most stimulating gymnastic of translation.

There is yet another form of composition which I commend with some diffidence, and only as an occasional extra—English verse. I should not have ventured to suggest so bold an experiment had I not known that, in the case of one school at least, it had been tried successfully. Most of you will have heard of an experimental school which was carried on by Mr. Sargeant, a Toynbee Hall resident, and some of you must have seen that most original volume that he published, entitled, "Specimens of Work in an Elementary School." I wish that I had time to read to you some of the little essays which seem to me models of what a master should aim at producing from the more intelligent of his pupils, but I must quote a small poem written by a girl of thirteen:—

Come join us in our merry play,
Don't stay indoors this sunny day
  Before the fire to pout.
Lessons are done and put away,
Come help to pick the scented may;
  Spring calls the children out.

The lines are childish—*non res sed spes*—but, to my mind, they are proof, and I think you will agree with me, that the girl who wrote them had been truly educated, that she had been trained to feel Wordsworth's "impulse from a vernal wood," and to express her feelings. The practice of Latin verse-making still absorbs more time in our public schools than history and geography combined, and is still vigorously defended on the ground that it enables boys to appreciate the beauties of Latin poetry, and that boys enjoy the exercise. Without endorsing such special pleading in favour of a superstitious observance handed down to us from the Renaissance, I may fairly urge that all the advantages claimed for Latin verse-making apply equally to the composition of English poetry, while the latter exercise is not open to the charge of unreality and learned trifling.

One word in conclusion. *Tel maître tel élève.* If you yourselves have drunk deep at the well of English undefiled, if you speak the tongue that Shakespeare spoke, if you have learnt to appreciate the grand style whose lineaments Matthew Arnold portrayed, be assured that your pupils will learn your great language, catch your clear accents, make you their pattern. Without this inward grace, models, methods, rules, are but sounding brass and a tinkling cymbal. The most successful teacher of composition in our generation was, by universal testimony, the late Master of Balliol, but when his pupils are questioned as to Jowett's methods they can tell us little or nothing. The Master, they say, had no secret; he did not teach us composition, but he inspired.

The Chairman said the meeting was much indebted to the lecturer for his very able and lucid explanation of the difficulties of teaching composition. Children who had any kind of cultivation did not make gross grammatical blunders, but rather those which arose from want of clearness of thought or connectedness in their sentences. There were two points to be thought of in composition. In the first place, you had to get the children to write something, and then you had to criticise what was written. The method of talking out the subject beforehand was useful, but, even with this assistance, there were some children of dull and commonplace mind who would fail to give the teacher anything to criticise, and so make his task much more difficult. It required a great deal of judgment to select passages adapted for paraphrasing. He doubted the expediency of long paraphrases, but there were many short passages in Shakespeare that were suitable for this purpose, and it was sometimes possible to make out from a very involved passage of Shakespeare a piece of prose that was really English. One good way of teaching composition was that of reproducing accounts of scientific lectures. The teacher should go through two or three experiments and question the class about them. He might then write on the board some of the chief points and let the boys write a connected account. Much might be done by this method, which had the advantage of giving the children some tangible facts to deal with.

Miss Anderton said she was pleased to find that the methods which she herself had used were similar to those recommended by the lecturer. A frequent defect in composition was the use of long and inappropriate words. This could, to a great extent, be remedied by the plan, already in use in America, of talking over the subject beforehand and afterwards talking over the essays that had been written. It was, however, difficult to apply this method in the case of large classes. Rules for composition, and the practice of giving heads, were more likely to cramp the child's free expression of his ideas than to assist in developing his powers of composition. Pictures were a very valuable stimulus. She considered that paraphrasing was invaluable. It enabled the teacher to discover inaccuracies of thought and defective comprehension, and helped the student to appreciate the superiority of diction of Shakespeare or Milton, and to become acquainted with good thought and apt expression of the thought. As to reproduction, she thought that the subject-matter could be as well supplied by means of history or other subjects as by science lessons.

Mr. Shipham remarked that he had made use of dialogue in teaching composition with gratifying results. He thought that paraphrase should be sparingly used, though he was aware that some teachers considered it to be valuable. His own experience convinced him of the value of the reproduction of oral lessons by the pupils.

Mr. Storr having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

ELEMENTARY SCHOOLS IN AUSTRALIA.

The comparison of the systems and methods of education pursued in other countries with our own is often useful and suggestive. It is so especially with regard to our colonies, where the majority of the inhabitants are of English origin and speech, as well as our fellow-subjects under the rule of the Queen. Although their circumstances differ widely, the differences between their mental habits and ours are not so great as to preclude us from gathering at least some practical hints from their experience in school-work. However this may be, it may interest our readers if we bring together from official documents some noteworthy peculiarities of the elementary schools in Australia.

One of the most salient and important of these concerns the duties of the inspectors. In Queensland and West Australia, and to some extent, in Victoria, teachers are classified in two grades, with three subdivisions in each, according to their attainments. The schools are graded in the same manner, so as to correspond with the standing of the teachers, whilst their salaries are paid by the State on a sliding scale proportioned to their qualifications and the importance of their schools. In the two first of the colonies just named, promotion from one class to another depends on the results of examinations for which they may offer themselves. On the other hand, advancement from one division to another within the same class is granted for efficient service, as shown by favourable reports of the inspector. At the same time, if inefficiency or neglect of duties or misconduct be reported, they may be reduced in rank or fined or even discharged. In Western Australia small bonuses of from £15 to £2 are given to both principals and assistant-teachers, according as their schools are reported to be "excellent" or "good" or "fair."

Now all this is connected with more frequent and, in some respects, more thorough inspection than obtains in England. In four colonies—Queensland, Victoria, Western Australia, and Tasmania—the inspectors are required to pay at least two visits to each school in their districts every year. One is a surprise visit, and, in some cases, the first, for an inspection properly so-called; the other, at another period of the year, is for examination of the scholars. No notice is given of the first visit, whilst of the other—at least, in Western Australia—not less than seven days' notice must be given. Inspectors at these visits may take the teaching of a class or of the whole school into their own hands for a time, in order to show the teachers how defective methods may be improved. Of the surprise visits the aim is to report as to the general management and tone of the school, and as to the character and ability of each teacher. At the other visit the inspector examines the scholars with a view to testing their attainments and their progress. More than one surprise visit may be paid in the year. "These visits," remarks the Chief Inspector of Western Australia in his Report for 1894, "are of special importance in determining the value of the instruction. At the annual examination the school is prepared for the inspector, most of the children are in attendance, the rooms, as a rule, have been cleaned and decorated, and everything is in order. It is at the 'surprise' visit that the inspector sees the school working under ordinary conditions, and he is thus better able to distinguish between the teachers who work regularly and conscientiously and those whose efforts are intermittent and perfunctory. In some instances a second 'surprise' visit would be useful, so that the inspector might have an opportunity of discovering whether his directions and advice had been attended to; this, however, has been impossible, except in a few instances, owing to the limited staff of inspectors and the great distances to be travelled." It thus appears that whilst these colonies have anticipated the change, which we have only lately adopted, of making surprise visits, they still retain, what we with doubtful wisdom have discontinued, the examination of scholars. Both objects can hardly be combined in one short visit, but both seem equally important, and if inspectors or their assistants could find time to visit each school at least twice a year it would be a great advantage. In Victoria certificates of merit are given to scholars who have fully passed the examination prescribed for the sixth class. Such official marks of approval must add more value and importance to the visit of the State authority, and act as a strong incentive to both teachers and taught. These certificates may also serve as a recommendation for higher employment in after life.

The next point that strikes us in all these colonial systems is the absence of either School Boards, in our sense of the term, or of voluntary managers. There are, indeed, District Boards, which in Victoria are called "Boards of Advice." Their members are those elected by the ratepayers (? taxpayers), and are to be not less than five or more than seven in number, one of whom acts as correspondent with the Department. Any of them may be removed by the Governor in Council; should such a Board not be elected, the Governor in Council may appoint one. Their duties are to report on the condition of the buildings, books, furniture, &c., to suspend any teacher for misconduct, and report the cause to the Minister, to visit the schools and record their condition and general management, as well as the attendance of the children, and, in fact, to act as an attendance committee. Very similar are the regulations in this respect of the Western Australian Code. In Queensland the members of the Boards may be appointed by the Governor in Council at the request of the parents of a third of the children attending three or more schools in the same district, and he may be guided in his selection by their recommendation. There are also school committees for individual schools. In Tasmania the members of the Boards of Advice are always the nominees of the State, and are removable by the Governor in Council. In New South Wales the Governor appoints these officers—not more than seven. "They"—as we learn from Mr. T. Coghlan in his recent valuable work on the "Wealth and Progress of New South Wales"—"are supposed to exercise a general oversight of the schools of their districts, but cannot interfere with the internal discipline or management of the schools, which remain under the direct control of the Minister of Public Instruction through the inspectors and other officers of his department." Such appears to be the general character of the government of the Australian schools. It is certainly much more central and bureaucratic than that of our own.

On the whole, the system closely resembles the French *régime*, and may have been copied from it. School rates as such are unknown, but the public schools are entirely supported by the State; popular control such as we are accustomed to, acting through elected Boards, does not exist, whilst the powers of the Boards of Advice and of committees are limited to the functions we have mentioned. Financial matters are entirely taken out of their hands. This fact may in part account for the costliness of the whole system, which greatly exceeds that of either our Voluntary or Board Schools. This will appear from a comparison between our school bills and those of the several colonies, as made by Mr. Coghlan. Cost per child in average attendance:—New South Wales, £4. 10s. 3½d.; Victoria, £4. 15s. 2¾d.; Queensland, £3. 14s. 1½d.; South Australia, £3. 8s. 11d.; Western Australia, £4. 17s. 9d.; Tasmania, £3. 2s. 7¾d.; New Zealand, £5. 14s. 10d. These startling figures he contrasts with those in the mother country, which he gives as having been, in the year 1894, for Voluntary Schools, £1. 18s. 1¾d.; for Board Schools, £2. 8s. 9¾d. This remarkable difference he accounts for partly by the heavy initial outlay in starting a new (?) system, and partly by the difficulty in obtaining efficient results in a country so sparsely populated. However this may be, such is the actual expenditure, and the only comfort he can offer is that the cost will not at any time exceed the present figures. We trust that, for the sake of our overburdened kinsmen in these colonies, Mr. T. Coghlan may prove a true prophet; but we cannot help thinking that if they had a voice in the matter this heavy outlay would soon be reduced. State education is indeed a costly article there, as in France and Belgium; considerably more so than in England.

A few minor features, which differentiate these schools from our own, may be noticed in conclusion. In New South Wales, Queensland, and Western Australia there is a system of half-time schools conducted by itinerant teachers. Wherever at least twenty children between the ages of four and sixteen reside within a radius of ten miles from a central point, a teacher is appointed to visit not more than two such places, devoting half a week to each in turn. Besides this, in Western Australia, to meet the wants of the scattered population, the settlers may have a teacher to instruct their children in their own homes, when they are too far from any school; and, if they guarantee a salary of £60, it will be supplemented by a grant. These arrangements are happily unnecessary in thickly populated countries like our own. More practically suggestive is the plan pursued in the rural districts of Victoria, of providing conveyances for children living very far from the schools. This has been found, not only a great boon to the scholars, but a source of economy to the State, for the saving in closed schools, after deducting the cost of conveyances, has been about £12,000. In the first year of the experiment 191 schools have been thus shut up as unnecessary. By this means probably the remaining schools are better staffed and worked with teaching of a higher order. In Western Australia an even greater saving of public money, almost £30,000, has been effected by attaching sixty-two smaller schools as adjuncts to others more central and important. This somewhat heroic remedy must be, we should fear, attended with no small local loss and inconvenience, however much it may benefit the taxpayers.

A less objectionable regulation is that by which teachers may, with the sanction of the Minister, teach subjects not included in the programme, and make their own terms of payment for them with the parents. These lessons are to be given out of school hours, and yet so as not to interfere with either religious or secular teaching or with the hours of play.

Such appear to be the most striking peculiarities of the Australian codes. The consideration of religious teaching opens out a large question, which we cannot now discuss. On this, the practice in these colonies varies considerably. In Victoria the system is entirely secular, whereas in the other states more or less liberty is given to the ministers of religion, or those deputed by them, to teach their own tenets out of school hours to children whose parents wish them to receive such instruction. In New South Wales, what is here generally known as undenominational teaching is made part of the curriculum. Still, in all these colonies public opinion is so divided in this matter that the authorities have not seen their way to allow the liberty which is to some extent enjoyed in this country, for children to be trained in the creed professed by their parents. It may be hoped that in time these difficulties will yield to larger and more enlightened views.

TITULAR DEGREES FOR WOMEN.

The proposal of the Cambridge Syndicate for conferring titular degrees upon women qualified for degrees has been amply discussed during the past month. As the Senate is expected to vote on the question early in the ensuing term, it may be con-

venient for some of our readers that we should bring together a few of the more noteworthy expressions of opinion on both sides. In a letter published on March 18, Mrs. Sidgwick, Principal of Newnham, said that those interested in the matter were willing to agree to the compromise embodied in the proposals. Professor Case (April 6) questions the right of Mrs. Sidgwick to pledge her friends on this point, and maintains that the compromise is unlikely to be accepted as a lasting settlement, quoting in support of his view a commentary in the *Cambridge University Reporter* for March 1, 1897, on last year's memorial of the students of Girton and Newnham to the Vice-Chancellor and Senate, praying "for the admission of duly qualified women to the degrees of the University." The commentary enumerates seven disadvantages under which women are said to labour, viz.:—

(1) The very general impression that this course of study is inferior to that of men; (2) restrictions on their use of the University library; (3) exclusion from almost all University prizes and scholarships; (4) debarment from dissertations for higher degrees; (5) severance and isolation of women teachers from the University; (6) precarious tenure, by mere courtesy, of access to University lectures and laboratories; and (7) insufficiency of the Vice-Chancellor's certificate as a qualification for appointments.

A proposal, says Professor Case, to satisfy one out of seven demands made in the name of practically all the women students cannot be that good kind of compromise in which England delights. "If such a compromise is carried at Cambridge it will produce nothing but a discontented unsettlement of both the Universities for years to come, not unlike that which tore Rome while she was extending parts of her citizenship without the *civitas optimo jure*."

On the seven points referred to in this letter, Professor Sidgwick observes:—

If Professor Case had read with the least care the document from which his list is taken, he would have seen that the first of the seven disadvantages is expressly attributed to the fact that "women leave college without proceeding to a degree"; it will, therefore, be removed, no less than the seventh disadvantage, by the grant of a titular degree. If he had read with the least care the resolutions proposed by the Syndicate, he would have seen that by the fourth resolution, admitting women to the degree of Doctor in Science or Letters, the fourth of his seven demands is met. If he had extended his reading to the paragraphs of the report of the Syndicate, he would have seen that they expressly reserve for future consideration "the desirability of allowing privileges in the University library to women who have received titles of degrees." It thus appears that, out of his seven demands, three are met by the proposals of the Syndicate and one reserved for—clearly favourable—consideration; only three are rejected, and, of these three, one relates to the obviously unimportant matter of University prizes and scholarships. There remain, then, only two disadvantages of any importance which the Syndicate decisively declines to remove—severance of women teachers from the University, and precarious access to lectures and laboratories. But these disadvantages obviously do not affect the non-resident part of our *quasi*-graduates; they will only be felt by the governing bodies and teaching staffs of the colleges so long as the opportunities of instruction now liberally granted by courtesy are not curtailed, and the circular of our opponents to the Senate definitely implies that they do not aim at curtailing these opportunities.

Mr. Strachan-Davidson notes that in recent discussions at Cambridge the old appeal to "justice" and the claim as of right have fallen into the background, and the titular degree is asked for principally because a woman "is handicapped in her efforts to obtain her daily bread" by the fact that she has not got it:—

Now [he continues] it was mainly this "daily bread" argument which induced many of us in Oxford to withdraw from the original policy of testing the work of women only by examinations specially framed for them. We were told that the women at Cambridge, being admitted to the men's examinations, could command a much higher price in the market for their services, and that it was "taking the bread out of the mouths" of the Oxford students to deny them a similar privilege. We did not then know what use would be made of the privilege as a starting point for further demands, and we withdrew our opposition.

Whatever Cambridge may decide, Oxford will not necessarily follow her lead, though the action of the one University may undoubtedly place the other in an unpleasant dilemma. Mr. Strachan-Davidson inclines to the creation of women's Universities as offering the best solution of the question, and suggests joint action on the part of Oxford and Cambridge with a view to that end.

Professor Westlake deals with the two chief objections to the titular degree, which, as he conceives them, are expressions of doubts as to whether the Cambridge honour course, including residence, is the best higher education for women, and whether the measure proposed by the Syndicate will, if adopted, be final. As to the first point, he thinks the Senate has nothing to do with such a question as what is the best higher education for women. The University is still far from having elaborated a perfect system for men, and has, therefore, no special claim to lay down the lines of one for women. It is more to the purpose, he thinks, that—

A considerable number of women have found that a certain part of our system—residence with an honours course—suits them. They tried it at first with what may be called connivance, the University examiners admitting them unofficially. The result was good, and they were allowed to try the experiment further with our authority. This second phase has continued so long that we are now called on to declare our judgment on it; if the result is bad, to discontinue the experiment; if the result is definitely good, to acknowledge the fact in the only way in which our acknowledgment of it will be generally understood.

"Finality," Professor Westlake contends, is, in a sense, secured by the proposals of the Syndicate, because titular degrees are the extreme limit of the changes in the University statutes which the Queen in Council is likely to make in deference to the opinion of the Senate alone. "It is pretty certain, when we remember the high position which Cambridge holds in connexion with the national life, that we shall not be allowed to settle for ourselves the further question of women's membership of the University and participation in its government. Public opinion as to the general position of women in the nation will have the chief part in deciding that question, whenever it may be raised. The same may be said of so great a change in the conditions of Cambridge life as would be made by admitting non-collegiate women students."

In the *Times* of April 15, Professor Clifford Allbutt compliments Girton and Newnham, saying that, if they alone were concerned, there would be little controversy; but other young women without the *cachet* of these two colleges would be clamouring for admission to titles:—

These admirable colleges have become a part of Cambridge; they consist mainly of women who seek knowledge for its own sake, and by their social life, both within and without, the University has been greatly enriched. Among these women are many, no doubt, who came up to Cambridge to learn to win their bread; yet even these are a select body, actuated chiefly or largely by a disinterested love of learning, and those of them who desire it—being, for the present, few, and thus select—readily obtain profitable occupations. But the proposals now before the University would tap another stratum, the far more numerous class of young women whose love of learning is no more disinterested, whose aspirations are no more lofty, than those of the average undergraduate man. To receive a Cambridge degree is to be a boon to this class great enough, and a worldly advantage rich enough, to justify a radical experiment upon the constitution of an ancient University. Now, if we estimate at one hundred the ordinary pressure of candidates seeking entrance to Girton and Newnham who cannot at once be admitted, we may presume from the claims of our opponents that the new attraction will multiply this number many times over. Is the University to offer the great boon with one hand, and with tongue in cheek to wave these aspirants aside because for physical reasons they cannot get in? New colleges do not "rise like exhalations," and, if but another five hundred superior young persons clamour at the gates, surely it would be a great injustice to deny them? I believe women may now study in Oxford as non-collegiate; some such arrangement would have to be accepted in Cambridge.

To this, Dr. Peile, of Christ's, replies that Professor Allbutt seems to think that the standard of women students will be lowered by the growth of a class who desire professional advancement only. But, as a matter of fact, the students there who have been looking forward to teaching as a profession have always been very numerous.

Many of these have come to Cambridge by the help of exhibitions and scholarships, but with much difficulty, and this fact, in my judgment, makes it improbable that their number will largely increase. Fathers spend money on their daughters' education less willingly than on their sons', and the professional outlook for women is not very wide. Therefore I cannot share Professor Allbutt's opinion as to the probable increase of their number, and I think that for a generation to come Newnham and Girton—with some possible extension—will supply all the accommodation that is needed. But, be that as it may, the decision as to the admission of women to examination who reside elsewhere than at Newnham or Girton will rest with the Senate. All that can be done under the present regulations (which remain untouched by

the report) is to found a similar college, which must also be recognized by a vote of the Senate. To this there would probably be no strong objection, if the occasion should arise, on the part of those who, like Professor Allbutt, think well of the existing colleges.

Dr. Peile observes, with a great deal of truth, that the reasonable character of the proposal of the Syndicate may be inferred from the readiness of its opponents to attack not what is now proposed, but something which may be proposed years hence. He is content to deal with the problem of to-day, believing that our successors will be not less wise than ourselves, not less anxious for the good of the University. We need not be too much afraid of hampering them by anything we may do; for we cannot foresee the form in which this or any other problem will reappear in the next generation.

REVIEWS.

The Origins of Romance.

"Periods of European Literature."—*The Flourishing of Romance and the Rise of Allegory.* By Professor G. Saintsbury. (Blackwood & Sons.)

As editor of a new series of manuals on post-classical European literature, Professor Saintsbury has undertaken the second of twelve volumes in chronological order (as well as the last). Professor Ker is to deal with the extremely difficult and critical period designated as the "Dark Ages," concerning which it is sufficient to say that if he could only roll away some of the clouds of darkness which have settled upon the really rich and copious literature of the Byzantines, and examine only so much of the Arabian literature as had its origin in Europe and dealt with European subjects, he would lay us under a great obligation, and would have ample materials for a portly volume. But the limits assigned to him will require him to go much further afield than this. Professor Saintsbury takes the period between the "Dark Ages" and the fourteenth century—that is, roughly speaking, the twelfth and thirteenth centuries. His special subjects, therefore, include a brief consideration of the function of Latin in this epoch, and the use to which it was put by the schoolmen, hymn-writers, and satirists; an account of the French *chansons;* the Arthurian legend and its origins; the remnants of classical romance and tradition; the "settlement of European prosody," especially in reference to Early Middle English literature; a review of Middle High German poetry; the development of allegorical poetry; with the French *fabliaux*, and the first essays of drama and prose fiction in French; followed by interesting chapters on Icelandic and Provençal, and on the literature of Spain, Italy, and Greece. The survey of so wide a field is necessarily rapid, and, in one or two details, it may strike a reader of special and exceptional knowledge as inadequate. But that would scarcely be a just conclusion. Professor Saintsbury occupies a good deal of space, here and there, by justification of his methods, by needless apology, and nervous anticipation of criticism—all of which is as irritating as it is unnecessary. In regard to his selected limits of time (1100–1300) the author says:—

> The work of these two centuries—which is mainly, though not wholly, the work of the hundred years that form their centre period—is curiously inseparable. In only a few cases do we know precise dates, and, in many, the *circa* is of such a circuitous character (!) that we can hardly tell whether the twelfth or the thirteenth century deserves the credit (!). In almost all, the adoption of an intermediate date of severance would leave an awkward, raw, unreal division (!).

We do not precisely understand this passage, but, at any rate, it seems to be superfluous. Why should any one complain of Professor Saintsbury for considering the twelfth and thirteenth centuries as a period of romantic florescence? Why should he so elaborately explain that he could not leave off while the best of the *chansons de geste* were being produced, or in the middle of the development of the Arthurian legend, with half the *fabliaux* yet to come, with half the *sagas* unwritten, and with the minnesingers in full voice? It is as though an English geographer should protest that he could not well have omitted a description of Yorkshire.

The fact is that the Edinburgh professor has not the grand style of literary exposition. It is more to the point that he has a certain gift for rapid and comprehensive survey, and that he can turn his wide reading to very good account. His chronicle of the earlier romances in the various European languages, is generally speaking, very readable, and, in the English and French series, he is naturally quite at home. It is impossible to say so much for the interest of other portions of this volume. Of the "Poema del Cid," for instance, though Professor Saintsbury lavishes upon it a number of flattering adjectives, he gives us no description whatever, and no sample from which an independent reader can form the slightest opinion on his own account. There are some unimportant generalities on the metre and rime, which have extremely little to do with actual literature; but, as for the character of the poem, the inspiration, the spirit, and even the romance, not a word.

> "I have not thought it necessary," Professor Saintsbury says, "to give an abstract of the contents of the poem, because Southey's 'Chronicle of the Cid' is accessible to everybody, and because no wise man will ever attempt to do over again what Southey has once done."

Surely this is an extraordinary conception of the duty of a literary historian. Southey's "Chronicle" is accessible to, perhaps, one in ten thousand of the Professor's probable readers; but, if Mr. Saintsbury only meant that the book is at the British Museum, or that it can be ordered through your bookseller, would not the same remark apply to ninety-nine hundredths of all that he has ever written? A more effectual method of making a literary chronicle hopelessly dull could not be devised.

Mr. Saintsbury is not hopelessly dull; but he might have made a good deal more out of his romances.

The Story of India.

"Stories of the Nations."—*British India.* By R. W. Frazer, LL.B. (Fisher Unwin.)

Mr. Frazer has added another very good volume to the excellent series of "The Stories of the Nations." Within the limited space permitted him, he has very little room for details, and different readers will miss different facts, according to diversity of interest; but, after all, the author has marked out the broad lines of his story with reasonable distinctness and with fair regard to proportion. "Throughout the story," he tells us, "attention has been centred more on the main factors which led to the foundation and expansion of the British Empire in India than to mere details of military operations or of administration." The fighting makes itself tolerably prominent, however; and it is rather to be regretted that administrative operations should not have been indicated in such a way as to show their bearing upon the life of the peoples. If it be right to exhibit the aggressive movements of pugnacious and commercial invaders, who eventually constituted themselves rulers with irrepressibly expansive instincts, surely at the same time we should have the picture filled out by some adequate representation of the ordinary social and political life of the peoples conquered, annexed, and ruled. But, taking the volume from Mr. Frazer's point of view, we must pronounce it to be carefully done. Once known, it is bound to be popular. And one may cherish a modest hope that it will do something to engage the sober interest of people at home in the pressing problems of Indian government and administration.

Mr. Frazer's first object, then, is to enable his readers "to gain a clear insight into the primary factors underlying British dominion in India." To this end he sketches rapidly the early history of commerce between the East and the West, the gradual transfer of the trade route from the Mediterranean to the Cape circuit, the declension of the Portuguese power, and the struggle amongst the Dutch, the French, and the English for predominance, which fell eventually to the English at the close of the seventeenth century. Following up this effective beginning, Mr. Frazer sets out the secondary factors, notably the contemporaneous decay of the Mogul Empire and the consequent separation of the ill-cemented elements temporarily held together by its controlling authority. The Moguls themselves were foreigners, and they fell under the everlasting forces of the climate. The operation of these still reads its perennial lesson. The essential weakness of Oriental troops—

> was not only the very basis of the policy of Dupleix and Clive, it not only rendered the conquests of the English inevitable and certain so long as they could pursue their course free from European rivalry, but, further, it is the basis, at least the material basis, on which the stability of the British rule in India is to-day firmly established, free from all fear of internal attack.

Another great lesson, not by any means effectively taught in England even yet, is not overlooked by Mr. Frazer in his narrative of the French decadence in India—the fundamental importance of the command of the sea.

The spacious times of Lord Clive and Warren Hastings have always kept their interest green. Mr. Frazer deals ably with the careers of both, with a particularly keen inclination to the fuller vindication of Hastings. He has evidently made himself familiar with the recent historical work that has been done on this profoundly important period, the result of which has been to roll away large masses of ignominy from the character of Hastings, and to prompt the expectation, and even the hope, of still ampler clearance.

The sad story yet remains to be fairly and adequately told of how Hastings was sacrificed by Pitt, delivered over to the malignity of Francis and those whose self-seeking intrigues and narrow-witted policy he had so sternly repressed and so proudly ignored. It remains to be told by some writer with the accuracy of to-day, yet with all the imagination of a Macaulay, how unjustly he suffered under the perfervid eloquence of Burke and melodramatic rhetoric of Sheridan, how nobly he bore the disgrace of seven years of criminal trial before an incompetent tribunal, which perfunctorily pronounced him not guilty of the charges conjured up against him by the malice of his enemies.

Anyhow, Mr. Frazer tells clearly enough how Clive and Hastings laid firm and sure the foundations and the framework of British rule. As he remarks, "the further conquests and acquisitions by a long series of Governors-General, from those of the Marquess Wellesley down to the annexation of Upper Burma in the present day by Lord Dufferin, have been but the inevitable results of the policy inaugurated by Clive and Hastings." It needs but to say here that he presents the great features of the successive proconsulships in faithful and effective outline.

One misses current criticism upon the various movements, except for an occasional word, never uttered without a feeling of constraint. Thus, the permanent settlement of Bengal by Lord Cornwallis "cannot be held to have been particularly successful." Or, again, in speaking of the annexation of Sind, Mr. Frazer shelters himself under the epigrammatic denunciation by Sir Charles Napier: "We have no right to seize Sind, yet we shall do so, and a very advantageous, useful, and humane piece of rascality it will be." True, in his final chapter, on the material and moral progress of India under British rule, while balancing pros and cons, he can hardly help showing at least a corner of his hand. He impresses the extreme riskiness of pushing military expenditure in a time of financial stricture; the increasing danger of the new-fangled laws that throw the peasant into the arms of the usurer to be throttled; the hopelessness, if not actual fraud, of raising a higher revenue from the smaller cultivators while the land-tax continues to be paid in silver at fixed dates and under other onerous conditions; the stress involved in meeting the expenses of the army, military defences, civil administration, and loss by exchange, mainly by bleeding the portion of the population least able to bear any increase of taxation. On other points Mr. Frazer makes no sign, sometimes contenting himself with the summary of an official document, as in the case of the native demand for more scope in the Civil Service of their country. But probably Mr. Frazer is working within rules prescribed for him. In any case, he has performed his difficult and delicate task with obvious care and discrimination, and, if he does not furnish all that one would like, what he does furnish is all welcome and very good of its kind.

The World's Literature.

A History of Ancient Greek Literature. By Gilbert Murray, M.A. (Heinemann.)

Professor Gilbert Murray with this volume introduces a series of short histories of the literatures of the world, which will be issued by Mr. Heinemann under the editorship of Mr. Edmund Gosse. If it be not heresy to say so, we confess to being glad to see from the general introduction that little notice will be taken in this series of the "linguistic origins of each literature," for the tendency hitherto has been to bestow too much attention on the philological side, of the ancient literature at least, to the detriment of the strictly literary side. Hence it follows that there is ample room for such a volume as Professor Murray's. It is doubtless hard in discussing the Greek and Latin literatures to avoid the philological questions which are so tempting to experts, so unattractive to the majority of educated readers; but the difficulty of such a plan adds to the merit of success.

We can, perhaps, best give an idea of Professor Murray's attitude by a short extract from his preface.

The "serene and classical" Greek of Winckelmann and Goethe [he says] did good service to the world in his day, though we now feel him to be mainly a phantom. He has been succeeded, especially in the works of painters and poets, by an æsthetic and fleshly Greek in fine raiment, an abstract Pagan who lives to be contrasted with an equally abstract early Christian or Puritan, and to be glorified or mishandled according to the sentiments of his critic. He is a phantom, too, as unreal as those marble palaces in which he habitually takes his ease. He would pass, perhaps, as a "Gracculus" of the Decadence. . . . There is more flesh and blood in the Greek of the Anthropologist, the foster-brother of the Kaffirs and Hairy Ainos.

Yet he will not accept Dr. Johnson's verdict of "savages," and thinks that a casual study by Mr. Andrew Lang or M. Anatole France will more nearly interpret the spirit of Greece. Perhaps; and yet recently a great prize-fight reminded the contributor to a well-known daily paper of the old Greek games. As a matter of fact, to find a Greek "type" is just as hard as to find an English or French type; that is to say, the more we know of the people, the less we see the type.

As might be expected, Athens monopolizes the greater part of the book, and "the Attic period, from Æschylus to Plato," is chiefly insisted on. The first six chapters, however, deal with non-Attic subjects, and carry the reader to the end of the period of Herodotus. The inevitable Homeric question occupies much of chapter i., but Professor Murray is distinctly to be complimented on the manner in which he manages to make the well-discussed facts comparatively interesting again. We need only mention that he upholds the theory of an Æolic collection of legends, afterwards more or less Ionicised, though without completely getting rid of a vast number of Æolic forms. The "Epic dialect" is, therefore, a bastard speech, resulting from imperfect fusion and transformation. Moreover, Professor Murray favours the view that both Argos and Ilion were Thessalian towns, which in the metamorphoses of the legend were located finally in the Peloponnese and the Troad respectively. He states the case for this theory very effectively, and we can recommend his first chapter to those who have not fully studied this side of the argument. It should be noticed that he apologises for the way in the Homeric question "has almost ousted the poet from the book"; but this was almost inevitable, for we do not see what he could well have omitted to make room for a further consideration of the man Homer as a poet.

In the Attic period, we have found the portion of the book which relates to Plato and his writings the most interesting. Professor Murray is evidently a great admirer of Plato; and, indeed, he says that "if the claim were advanced that the 'Symposium' was absolutely the highest work of prose fiction ever composed, most perfect in power, beauty, imaginative truth, it would be hard to deny it; nor is it easy to controvert the metaphysician who holds it to be the deepest word yet spoken upon the nature of love." "But in it," he continues, "as in almost all Plato, there is no enjoyment for him who has not to some extent learnt *Hellenisch zu empfinden.*" We do not quite agree with his statement that, of the two errors, "to hate one's fellow-men," and "to hate Reason and the Ideal," Plato fell, like Carlyle, and perhaps like Shakespeare, into the first. We concede Carlyle, but we do not think that Plato, much less Shakespeare, was by any means a true misanthropist. But this question is beyond our present scope.

Speaking of the so-called "Platonic schools," Professor Murray observes:

Platonism had no form of its own. . . . But it is just this inconclusiveness of Plato's thought that has made it immortal. We get in him, not a system, but a spirit, and a spirit that no discoveries can supersede. It is a mistake to think of Plato as a dreamer; he was keen and even satirical in his insight. But he rises beyond his own satire, and, except in the "Gorgias" period, cares more for the beauty in things than for the evil.

Of Plato's style, again, he says that, although the ancient critics put Demosthenes on a level with him, or even above him, yet—

Plato's range is longer; he has more delicacy and depth, and a wider imaginative horizon than was possible to the practical statesman and pleader. You feel in reading him that, in spite of all the overstatements and eccentricities into which his temperament leads him, you are really dealing with a mind for which no subtlety is too difficult, no speculative or moral air too rarefied. The accusations against him come to nothing. His work in the world was to think and write, and he did both assiduously at a uniform level of loftiness. . . . There is perhaps no man of whom one can feel more certainty that his eyes were set on something not to be stated in terms of worldly success, and that he would, without hesitation, have gone through fire for the sake of it.

Post-Demosthenic literature, owing to the exigencies of space, has only some thirty pages allotted to it, which seems a pity when we consider how much we owe to later Greek literature. We cannot, however, hold Professor Murray altogether responsible for this scant attention. His work throughout the volume is deserving of much praise, and, in conclusion, we shall only mention one point where we do not consider his policy wise, namely, in the spelling of proper names. He adopts, as a rule, the ordinary English or Latin modifications of Greek names, but keeps the K where C would be soft, as in Kimon (Cimon), and marks long syllables with the circumflex accent, *e.g.*, in Leptînes. There seems to us to be some inconsistency in writing Carkinus, Thucydides, and Kerkidas in the same volume.

A Medieval Text-Book.

Europe in the Middle Age. By Oliver J. Thatcher, Ph.D., and Ferdinand Schwill, Ph.D. With Maps and Charts. (Murray.)

There is a great deal to be said for the idea of taking mediæval Europe—the migration and organization of the new nationalities—as a subject of historical study in schools and Universities. The period which we have somewhat absurdly accustomed ourselves to describe as the "Dark Ages" is full of importance and interest. No epoch of the world's history is more replete with critical events or significant lessons, and to neglect it, as it is too often neglected, is to ignore some of the most essential and pertinent facts in the origin of modern Europe. The neglect, indeed, is not much to be wondered at, for the ordinary student of history relies on definite and well-attested facts; and his examiners and teachers, for their own sakes as well as for his, have preferred to take him straight from the dated list of Roman emperors to the Capetian kings, the German emperors, and the Norman conquest of England. A few hackneyed anecdotes about Clovis and Arthur, Charlemagne and Alfred—twelve paladins, a round table, a chair by the sea-side, some cakes burning on the hearth—this is nearly all that a schoolboy used to be told of the Dark Ages in the last generation; and the schoolboy of to-day is not told much more. Yet there is a whole range of salient and stirring facts which unquestionably ought to be known to every well-informed boy or girl, such as the part taken by the various nationalities in the supplanting of Rome, in the establishment of Christianity, in the evolution of Aryan laws and political institutions, in the foundation of the German Empire, and the French and English kingdoms. Perhaps the greatest need, at all events one of the greatest needs of non-technical education at the present moment, is the reorganization of historical teaching. We have been gnawing our national histories to the bone, as though it were quite enough for a man or a woman to "give a list" of kings and queens, with dates, to "give a list" of battles, treaties, and revolutions, and so forth, each for his or her own country, and only for the past eight or nine centuries. Of course, the main facts of history and geography in connexion with our native land should be known first of all; but, as in geography the pupil goes on to study the natural and political features of other countries, so in history it would be possible, and certainly desirable, that he should enter a larger field and be endowed with a wider horizon.

The work of Dr. Thatcher and Dr. Schwill does something more than would be necessary for such a purpose as that which we have just indicated. It has been prepared by two Lecturers in History at the University of Chicago, and is intended for the freshmen and sophomore classes. In something like seven hundred pages the authors make a fairly comprehensive survey of the general history of Europe between the decline of the Roman Empire and the year 1500. We have no great fault to find with the manner in which they have accomplished the task, for they are mostly accurate in statement, and the insufficiency of some parts of their narrative is only such as would naturally be expected from the enormous extent of the subject. They might have done more wisely if they had ended with the tenth or eleventh century, and devoted part of the space thus economized to a certain alleviation of the ponderous record of fact. For many readers this volume will be distinctly serviceable; but unfortunately it contains a number of mis-spelled words.

A Cambridge Text.

The Epistle to the Philippians. With Introduction and Notes by the Rev. H. C. G. Moule, D.D. (Cambridge University Press.)

Dr. Moule's concise and scholarly edition of the *Epistle to the Philippians* is among the best volumes of the "Cambridge Greek Testament." Schoolmasters sometimes complain of some of the books in the series that they are grievously over-annotated; but against the latest addition to it no such charge can be brought. The explanations are exact and clear. The editor is a good scholar as well as an enthusiast, and he does not allow his enthusiasm to outrun his scholarly instinct. Bishop Lightfoot is, of course, largely drawn upon, but Dr. Moule preserves an independent judgment, and frequently differs from his predecessor. Especially valuable are his comments on abstract terms, such as have passed into the ordinary language of religion, and are, consequently, ever in danger of losing their true significance to modern readers. It was well remarked by Jowett that "ages which are under the power of ideas are also under the power of words"; and nothing, surely, is more essential to a clear understanding of St. Paul than a distinct apprehension of the meaning *he* attaches to such words as "faith," "peace," "righteousness."

On i. 4, Dr. Moule's remark on τὴν δέησιν ποιούμενος seems to us rather over-subtle. In the course of it he points out that ποιῶ for ποιοῦμαι in this use is "very rare." It is, to be sure, wholly unclassical, but it is not so very rare in late Greek. It is to be met with in scholia, and every one knows, that it has got into the text of one place of Thucydides. St. Mark's ὁδὸν ποιεῖν might have been cited. The note that follows, on κοινωνία, says nothing of the development in the meaning of this word that is found in St. John's Epistles. On ii. 16, Dr. Moule well says that λόγον ζωῆς means "the Gospel, as the revelation and offer of eternal life in Christ." He refers to Bishop Westcott on I. John i. 1, as showing that there is no hint there of the Personal Logos; but it may still be questioned whether the personal reference is in that place to be entirely excluded.

To vex the magnificent passage, "Whatsoever things are true, whatsoever things are serious (σεμνά)," &c., at iv. 8, is something of an outrage; but we cannot refrain from a remark on Dr. Moule's explanation of εἴ τις ἀρετὴ καὶ εἴ τις ἔπαινος. On ἀρετή he quotes from Lightfoot a somewhat fanciful comment, intended to show that the sense is, "Whatever value reside in your old heathen conception of virtue." We can only say that, if this is correct, we are very sorry; for by such an interpretation the splendour of the passage is surely marred. But is such a meaning of the word possible, considering that ἀρετή follows immediately on that noble accumulation, ἀληθῆ—every one knows how important that word is in St. Paul's writings—σεμνά, δίκαια, προσφιλῆ, εὔφημα? Is not the writer giving a description of the Christian gentleman's qualities? And can he in ἀρετή really be alluding to any heathen conception whatever? Or, rather, is it not true to say that in all the ages since humanity became fully civilized the meaning attached to the word "virtue" has been essentially the same? Still less are we inclined to accept the remark on εἴ τις ἔπαινος, whereon Dr. Moule writes as follows:—"It is not right to do good for the selfish pleasure of praise. But to praise good deeds is right, and so may give the recipient of the praise a pure moral pleasure." Now, in the first place, what man can judge how far, when he does a good action, he is moved by a desire to win praise? And, secondly, can we say that God has not planted in the heart of man the desire to win praise as a motive to stimulate him to do good? For our part, we greatly prefer Ruskin's statement in his lecture called "The Heraldic Ordinaries." "You will find," he says, "if you look into your own hearts, that the two great delights, in loving and praising, and the two great thirsts, to be loved and praised, are the roots of all that is strong in the deeds of men, and happy in their repose. We yet, thank Heaven, are not ashamed to acknowledge the power of love; but . . . I suppose the best of us would shrink somewhat from declaring that the love of praise was to be one of the chief motives of their future lives. But I believe you will find it, if you think, not only one of the chief, but absolutely the chief, motive of human action. . . . And you may sum the duty of your life in the giving of praise worthily, and being yourselves worthy of it." We believe that St. Paul, too, is encouraging a desire to be worthy of praise. "Ponder these things," says St. Paul, "and practise those things that I have taught you, and *then* [καί—the force of which Dr. Moule does not state with distinctness] the God of peace will be with you"—that is to say, as we should explain, again somewhat differing from Dr. Moule, "you will be at peace with one another, with yourselves, and with God." It is the union of right thought with right action that produces "all that is strong in the deeds of men, and happy in their repose."

UNDER SIX.

Comenius' School of Infancy: An Essay on the Education of Youth during the first six years. Edited, with an Introduction and Notes by Will S. Monroe. (Isbister & Co.)

John Amos Comenius, "the evangelist of modern pedagogy," is canonized educationally in Germany and Holland. To Naarden, where he passed his closing days in exile, and where a modest monument was erected to his memory on the three hundredth anniversary of his birth, in 1892, "hundreds of educators come annually from Germany, Austria, Bohemia, Poland, Sweden, and other European countries to pay willing homage to the memory of a great teacher and a good man." At one time he was adviser to the English Parliament on educational topics; he was well known to Milton, Hartlib, and other contemporaries who thought and wrote of education; and most of his many writings were early translated into English. Benham's translation of the "School of Infancy," published in London in 1858, has long been out of print. Mr. Monroe revives Benham, with frequent modifications suggested by the German editions of Julius Beeger and Albert Richter. He adds useful comparative notes, reminds us of the leading points of Comenius' life and educational activity, and reproduces an interesting portrait of Comenius from an engraving by W. Hollar, the Bohemian artist, "who doubtless took it from life." Comenius was a native of Bohemia.

The scheme of education outlined by Comenius does not contemplate the completion of education with the fourth standard. It captures the child at birth and teaches him the way wherein he should walk, or think, till he reaches the mature age of twenty-four. It is divided into four stages, for which four grades of schools are provided. The "School of Infancy" deals with the first stage—the mother school, laying foundations during the first six years of life. It was written in the Bohemian language between 1628 and 1630, when Comenius was pastor of the Moravian church, and teacher in the Brethren's school, at Lissa in Poland, where it was first printed in 1633. It is naturally quaint in its manner nowadays; but it is remarkably sensible and suggestive, as well as methodical. The whole fabric is placed on a basis of religion, broad-minded, practical, and profoundly earnest. The materials are selected with distinctive common sense and liberality. Comenius insisted on study of the mother-tongue, laid great stress on the value of nature-studies for children, and exercised the whole organization, physical, intellectual, moral, religious, imaginative. He was also careful to provide for the inevitable varieties of capacity and quickness of development. The exposition is governed by as vigorous a logic as modern schoolmen could reasonably desire to see applied. And the whole work is informed with a fine spirit of genuine love for children, and an interest in them that passes in imagination to the farthest future, here and hereafter. This is an admirable book for practical use, not merely for the mother—the natural teacher of the first six years—but for all other teachers; and, apart from its practical aspects, it is a book that it must do any sound head and heart a power of good to read.

ESSAYS BY SIR WILLIAM HUNTER.

The Thackerays in India, and Some Calcutta Graves. By Sir W. W. Hunter, K.C.S.I. (Henry Frowde.)

It is not very long since we noticed Sir William Hunter's tender and pathetic story of "The Old Missionary," which clings to the memory as an admirable tribute to a saintly and undistinguished man. In the essay which comes first in the present volume, though it figures last on the title-page, the same vein of quiet and delicate thought is employed in the biographies of a few Englishmen of the earlier days of John Company. Sir William tells the story of William Hamilton, who cured the Great Mogul, of Job Charnock, who founded Calcutta, of Rosa Aylmer, known by the poetic love of Landor, and others. Three chapters follow, on Thackeray's grandfather, uncles, and father. They make an interesting contribution to the family records of the novelist—"the manliest and tendrest man of letters of our age," as Sir William not unreasonably calls him.

How would he have chosen that this chronicle of the strenuous lives of his countrymen in India—sometimes unloved, often ill-requited, generally cut short—should end? "Canst thou, O friendly reader," he asks, "count upon the fidelity of an artless or tender heart or two, and reckon among the blessings which Heaven hath bestowed on thee the love of faithful women? Purify thine own heart, and try to make it worthy of theirs. All the prizes of life are nothing compared to that one. All the rewards of ambition, wealth, pleasure, only vanity and disappointment, grasped at greedily and fought for fiercely, and over and over again found worthless by the weary winners." It was the mother of Thackeray that taught him to think thus of women.

Sir William Hunter has much to tell us of William Makepeace Thackeray, the novelist's grandfather, and of his many children, several of whom were distinguished men and women. The second son, Richmond, a man of artistic tastes, married Anne Becher, who became the mother of the Thackeray whom we all know. One of her relatives is thought to have been the original of Colonel Newcome.

DISCURSIVE TALKS ON HISTORY.

History in Fact and Fiction: a Literary Sketch. By the Hon. Albert S. G. Canning. (Smith, Elder, & Co.)

This is a discursive book, easy to get along with, *de omnibus rebus et quibusdam aliis.* Mr. Canning has observed that even grave historians acknowledge the aid of fiction in the elucidation of history; "distinguished authors of plays and novels, instead of alluring readers from historic truth, have rendered it more useful and easy of comprehension by mingling it with fictitious personages and events." Mr. Canning follows with considerable shrewdness the main historical fictions in English, estimating their greater or less fidelity to facts; but he discourses on the sober historians as amply as on the romancers, and he has allowed himself so much liberty in his *causeries* that a good half of his volume might be more accurately described as studies in the romance of history than as a literary sketch of historical romance. The book is not the less interesting on that account; it is more varied, and Mr. Canning's idea is all the better developed by his historic surveys, even when they do not precisely square with his title or preface. The following passage gives a fair example of the author's style and width of treatment:—

In historic literature, Jews and Mohammedans also appear with special prominence in the latter part of this century. No longer restricted as formerly to their own denominations, in religious or literary intercourse, their works are now freely read by Christians, while they and the Parsees, under British rule, are beginning to take part in the government in India. The historic works of the Jewish writers Friedlander and Montefiore, and of the Mohammedan Syed Ameer Ali, recently written or published in England, are accompanied by religious histories of Parsees, Brahmins, and Buddhists, written or translated by European Christian scholars, while the translations of the "Sacred Books of the East," in which Professor Max Müller has taken the lead, contribute an almost unprecedented amount of Asiatic religious information.

The reader certainly has to thank Mr. Canning for a very readable volume of lightly conceived historic philosophy, suggestive rather than profound, but always bright and discursive.

SHORT NOTICES.

CLASSICS.

The editors of *A First Latin Course*, G. B. Gardiner and A. Gardiner (Edward Arnold), explain, in somewhat doubtful grammar, that they have excluded from it all "matter that was not deemed necessary for the beginner, and the superabundance of forms which disfigures some of our school-books." And, they continue, "we almost regret that we did not use the pruning-hook, and cut out all the Numerals except the Cardinals and the rare Future Imperative of the Verb." The construction of the last sentence is remarkable, and we will only add by analogy—what is true—that we can commend this book generally except the preface, and the absence of a detailed table of contents and index, and a judicious arrangement of the matter. The work is divided into five parts, of which the first is an elementary Latin accidence. The second contains exercises from Latin into English, and English into Latin, beginning with simple sentences and progressing to the easier forms of compound sentence; the third part gives the rules and vocabularies required in Part II.; and the remaining parts are general vocabularies. In short, the book does not seem to us to differ greatly from others of its kind; and, like them, it mis-states the law of the sequence of tenses. On the last point we may direct the attention of writers of elementary Latin books to Mr. A. M. Cook's "Latin Course," which is still the most scholarly book of the class in the market. The work under notice, however, well deserves an inspection by masters in search of a compendious Latin course.

Latin Tests: Lower Grade, by John M'Ewen (Nelson & Sons), is a series of forty-eight translation and grammar papers, suitable for candidates for the Oxford and Cambridge certificates and the University examinations, and, on the whole, is likely to prove very useful in English schools. That part of the papers, however, which deals with Latin verse-writing will be of no value to English schoolmasters, as it is from their

point of view far more elementary than the rest of the work set. Thus, for example, alternative tests in the same paper are to arrange words in an elegiac couplet and to give an account of the Third Punic War. Another test in the same paper is a well-known passage for Latin prose, which the reviewer remembers to have done as a second-year undergraduate. Every now and then we light on a question in the good old style that we thought had gone out with the dodo and Mr. Bumble and Serjeants-at-Law. For instance, which of our readers could, in one effort, "name the Graces, the Fates, the Furies, and *three* Muses"? Or who, among us degenerates, could tell Mr. M'Ewen, without prevarication, "where did the gods, the muses, and the dead dwell"? Or who, again, will oblige with an "arrangement" of the meaning, gender, ablative singular, and genitive plural of Sappho? Immortal Sappho, lying for ever among the myrtles—while we miserable groundlings strive vainly, at Mr. M'Ewen's bidding, to arrange her a genitive plural!

Selections from Nepos, by A. W. Carver (Blackie), contains Lysander, Alcibiades, Thrasybulus, Conon, Dion, Iphicrates, Chabrias, with notes, exercises, and vocabulary. The text is conveniently printed in short paragraphs, and the notes give very simply and briefly whatever is needful to the beginner. The renderings in the notes seem to us to be occasionally too free for their purpose. It will surely puzzle a beginner—or, at least, will encourage him in slovenly ways—to read that "gravi morbo quemadmodum se haberet" is to be rendered "how he was."

The *Iliad* and *Odyssey*, by W. Lucas Collins (Blackwood), are reprints, verbatim, we believe, from the old series called "Ancient Classics for English Readers." Accordingly, no account is taken of recent Homeric scholarship. Mr. Leaf, Mr. Lang, and Professor Jebb are as though they were not, and, consequently, the books are inadequate to the needs of a generation reared amid University Extension series and scientific manuals.

Juvenal, Satires XI., XIII., XIV., by A. H. Allcroft (Clive), is edited in the well-known manner of the series to which it belongs—a series that is always brief and business-like. The editor, in his introduction, gives a note on the state of society under the Early Empire; but, as he is concerned only with Rome, the title of the paragraph is misleading. One can hardly call a description of the vices of the London aristocracy "Society under the British Empire." We refer to so small a matter because it is a fact that most students of the early Roman Empire begin by getting an utterly false impression through such oversights on the part of authors.

FRENCH.

(1) *Selections for French Composition.* By C. H. Grandgent. (Isbister.) (2) *Le Gendre de M. Poirier.* By Augier et Sandeau. Edited by B. W. Wells, Ph.D. (Isbister.) (3) *Le Cid* of Corneille. Edited by F. M. Warren. (Isbister.) (4) *Object Lessons in French.* By Alec Cran, M.A. (Nelson & Son.) (5) *A Second French Course.* By J. J. Beuzemaker, B.A. (Blackie & Son.) (6) *Achille et Patrocle.* By Léon Cladel. Edited by Emile B. Le François. (Blackie & Son.) (7) *French Essentials and French Conversation Lectures.* By H. R. Ladell, M.A., F.R.G.S. (Relfe Brothers.) (8) *Cassell's Lessons in French.* By Louis Fasquelle, LL.D. Parts I., II., and Key. (Cassell & Co.)

(1) Intended as they are for schoolboys and college students, these *Selections* strike us as being well adapted for the purpose in view. The French texts are admirably chosen to awaken and keep up interest, the paraphrases are clever and practical, and will require a sound assimilation of the text before any attempt at turning them into French again can prove successful. Maupassant's prose is especially lively, witty, and interesting, and the paraphrases thereon fully keep pace with it. For more advanced students, who can fly with their own wings, there are easy narratives, more difficult narratives, some practical descriptive prose, and passages of literary criticism. The whole is very well and carefully graduated. The chapter treating of "Letters" is decidedly useful. In it are to be found all the epistolary formulas necessary for beginning or closing ordinary letters, as well as many letters for translation into French. The notes are plentiful, but will require the help of the master. The French-English and English-French vocabularies are adequate.

(2) *Le Gendre de Monsieur Poirier* is a masterly play at all points, and students who are advanced enough to appreciate its finished style and dramatic construction, its humour, its witty satire and healthy philosophy, will welcome it as an addition to their already copious library of French readers. So far, we may congratulate Mr. Wells. His introduction to the play, in which he reviews Augier's work, is crisp and generally sound. He might, perhaps, have given us some clue to the reasons why Augier has produced nothing since 1878. As to the text, there are a few misprints that might have been avoided. Many of the notes will, no doubt, "solve difficulties and give the attentive student a key to the spirit of the play," as claimed by the editor. But sometimes the key given is a false key; printer's errors abound, and we demur to many of the renderings. Yet there is in the notes, though somewhat slipshod, much that is very good.

(3) This edition of *Le Cid* is in no way a class-book, but rather a library edition—a book of reference, if we may so term it. The earnest student of literature, and particularly of Corneille, will find, concisely grouped and fully annotated, all he may wish to know concerning the play, its origins, the petty jealousies it aroused, the virulent criticisms that assailed it, and the scurvy measures adopted to bring it into disgrace and cause its ultimate condemnation as an original work. Drawn from the best sources, introduction, commentaries, text with *variantes*, and notes, are trustworthy, and deserve zealous perusal. We can fully recommend Mr. Warren's work.

(4) An earnest work by an earnest teacher, *Object Lessons in French* ought to accomplish much towards enabling young pupils to acquire ready colloquial knowledge and fluency. We wonder, however, how many lessons a week would be necessary to do full justice to the book! For, on the whole, though it is thoroughly practical, and deals only with things common in daily life—the body, clothes, house, rooms and their contents, school, garden—we deem it somewhat difficult, replete as it is with words and phrases, and so largely idiomatic. It would suit pupils with previous knowledge rather than beginners, and a year's hard preliminary training in pronunciation, verb drill, and general grammar would not be too much before taking up these *Object Lessons*. This said, we find no other fault with the book. It is plentifully illustrated, and very interesting throughout. It is provided not only with numerous colloquial exercises, but also with *lectures*, and English exercises to be translated into French, based on the texts of the previous conversations. It has also two full vocabularies. We think, with the author, that the first lessons on a living language should be given orally, with the help of the blackboard and of pictures. We heartily recommend it.

(5) The main feature of M. Beuzemaker's *Second French Course* is the introduction, which treats fully of pronunciation, taking in turns the vowels, consonants, accents, *liaison*, and tonic accents. The chapter on the latter is especially good and exhaustive. As regards the grammar proper, we notice a good chapter on genders, and the division of verbs into *less* and *more* irregular—a division which, as is pointed out, is quite arbitrary. The rest is composed of mixed accidence and syntax for the sake of reference, but hardly for class use. The rules are well set out and exemplified. Appended are a French reader, composed of miscellaneous and interesting pieces; advanced conversations on familiar style and rapid speech, with the pronunciation phonetically indicated; a few pieces of high-class poetry, phonetically marked and duly translated, most likely for paraphrasing into French again; exercises for translation into French, based on the pieces of the reader; and two vocabularies. Altogether, *multum in parvo*, a book that will well suit a private student. As regards the adoption of phonetic signs to represent French pronunciation, it has always seemed to us like forcing the student to do in two strokes what he could more easily and better do in one. On general principles, we readily recognize the value of phonetics, but when we deal with so delicate a pronunciation as that of the French language—though not so very intricate, after all—we require more than phonetics to help us, and a native teacher is of paramount necessity, lest our best efforts result, in the words of the author, in French "after the scole of Stratford-atte-Bowe," which to the "French of Parys is unknowe." Such slips as "Une pomme sûre," "Quelle charmante ruisseau," "N'en vous déplaise," and several others here and there, will no doubt be corrected in further editions.

(6) *Achille et Patrocle*, an extract from "Les Va-nu-pieds," by Léon Cladel, which created such an uproar in 1873, is a charming little book of twenty pages of text, in which are to be found all the originality and vigour of its author. It follows Napoleon from Lodi to the Moskowa, and will be welcomed by Army classes, although any advanced class may take up the book and peruse it with interest and profit. It represents a fair term's work. The notes are historical, not grammatical. Appended are useful retranslation exercises and a complete vocabulary.

(7) *French Essentials* is an epitome of general accidence and syntactical rules, which has nothing to lift it out of the common. Appended are eight pages of French and English colloquial detached sentences, which are the translation of each other. The author modestly owns "that they may not be the best that could have been framed from the given materials," and we are pleased to agree with him. Properly expounded and digested, these sentences will, no doubt, provide a pupil with a certain stock of words and idiomatic expressions. Such seems to be the aim of the author. But we think it might have been made a matter more of intelligent development than of rote. Here and there are a few slips, which will disappear in the next edition: for example, we can hardly agree with *la plupart du monde;* or that *une année, une soirée* are properly rendered by a *special* year or evening; or that *sept heures moins quart* is essentially French.

(8) It is with all due respect that we open the ninety-first and the one hundred and fifty-first thousand respectively of Part I. and Part II. (250 pages each) of Cassell's *Lessons in French*, corrected and enlarged up to date, and provided with a key to the French and English exercises. These lessons appeared originally in the pages of the *Popular Educator*, but, indeed, their popularity they owe mostly to themselves. The course is bulky, it is undeniable, but it is thorough at all points.

True, the exercises in the first part are built on the old lines: "Votre sœur a-t-elle faim ou soif?—Non, mais elle a honte. Avez-vous ma bouteille?—J'ai la malle de votre sœur. Le boulanger a-t-il de la volaille?" But there is some charm in such sentences—"il y a de l'imprévu"—and it is not at all sure that those of later date are a whit better, or foster quicker, sounder progress. We quite agree in the popular verdict, as expressed in this one hundred and fifty-first thousand, that the book is practical and useful, specially adapted for the use of students desirous of obtaining a good knowledge of the French language by their own unaided efforts. And it may also be safely used in schools and colleges where French lessons occur more than twice a week. The introductory remarks on letters and pronunciation are helpful and accurate enough for general purposes. The second part contains a systematic and complete grammar, expounding all intricacies and illustrating them with examples taken from leading French authors. The chapter on gender is very good. On the whole a good book that bears looking into, and we can recommend it, feeling sure that students that have gone carefully through both courses will possess at least a theoretical, if not a colloquial, knowledge of French.

GERMAN.

(1) *Der Trompeter von Säkkingen.* Von J. V. von Scheffel. With Introduction and Notes by Carla Wenckebach. (2) *Ekkehard.* Eine Geschichte aus den 10ten Jahrhundert. With English Notes. Same author and editor. (3) *Lessing's Emilia Galotti.* With an Introduction and Notes by Max Winkler, Ph.D. (4) *Der Schwiegersohn, Eine Schneidergeschichte.* Von Rudolf Baumbach. Annotated by Dr. W. Bernhardt. (5) *Märchen und Erzählungen für Anfänger.* With Vocabulary and Questions on the Text. By H. A. Guerber. (6) *Praktische Anfangsgründe.* By Hermione Stüven. (Boston, U.S.A.: Heath & Co.; London: Isbister.) (7) *The Public School German Grammar.* By A. L. Meissner, Ph.D. (Hachette.) (8) *Allerhand Sprachdummheiten.* Von Gustav Wustmann. Zweite, verbesserte und vermehrte Ausgabe. (Leipzig: Grunow; London: Siegle.)

(1—6) We have again on our table a number of unnecessary editions of German books. For some of them the expression unnecessary is hardly the right one. Take, for instance, the first book in our list—Scheffel's famous *Trompeter von Säkkingen.* This is a poem which English readers of German should peruse *in extenso* after having left the schoolroom, and not wade laboriously through it, even in its abbreviated form, whilst they are overwhelmed with school and college tasks. Besides, even in its present curtailed form, the epic contains upwards of 4,500 lines; and, considering how little time is allotted in schools to the subject of German, it would take a student two years or more to go carefully through this poem. The very short introduction is sensible enough, and the explanations of the various allusions are as a rule correct, but a number of the "translation notes" are either superfluous or erroneous. The same remarks apply to the abbreviated edition of Scheffel's *Ekkehard.* The attempt to adapt this celebrated historical novel for school purposes has also been made in this country, without signal success. The fact is that the highly interesting romance must be read at leisure in its complete form, if it is to be duly appreciated and enjoyed. The editor's biographical and historical notes will be found useful. Dr. M. Winkler's edition of Lessing's *Emilia Galotti* is on the whole commendable, but, without being prudish, we should be sorry to see this drama used for educational purposes in this country. The reading of this masterly tragedy should be left, like that of Scheffel's works—but partly for other reasons—to grown-up persons outside the schoolroom. Rudolf Baumbach's story, *Der Schwiegersohn,* is hardly of sufficient weight or interest to be used as a text-book in school or in college. The notes require thorough revision and correction. The editor of *Märchen und Erzählungen für Anfänger* assures us in his—or her—preface that "the need has arisen of a Reader which can advantageously be used for beginners of all ages." We should have thought that the educational market was glutted with similar publications. Twenty or thirty years ago the *Märchen und Erzählungen* would perhaps have been a useful and interesting novelty, but now it has been forestalled scores of times by better publications. The same might possibly be said of the *Praktische Anfangsgründe,* although this little book contains a number of hackneyed and uninteresting anecdotes.

(7) Professor A. L. Meissner's *Public School Grammar* has reached a seventh edition. This book is so well known on both sides of the Atlantic that it will suffice to state that, whilst introducing some minor alterations, the author has wisely eschewed such changes as might interfere with the use of the book in classes.

(8) The last book on our list is Dr. G. Wustmann's grammatical treatise, entitled *Allerhand Sprachdummheiten,* which we noticed favourably on its first appearance. In issuing a second edition, the author has thoroughly revised and considerably enlarged it, and we can cordially recommend this manual to all earnest students of the German language.

MATHEMATICS.

(1) *Todhunter's "Algebra for Beginners."* Revised by Professor S. L. Loney. (Macmillan.) (2) *Elements of Algebra.* By R. Lachlan, Sc.D. (Edward Arnold.) (3) *Metric Arithmetic.* By R. Wilson, B.A. (Macmillan.) (4) *Arithmetical Test Cards.* (McDougall's Educational Company.) (5) *The Penny Table Book.* By Edmund Routledge. (Routledge & Sons.)

(1) We should judge that Professor Loney has not taught algebra to beginners, and therefore cannot rely on experience as to the best way of teaching it to them. Todhunter's work has been expanded to quite unnecessary, not to say unwieldy, dimensions, and the old text has practically disappeared. It would be unfair not to allow that the examples for exercise, and those worked out in the book, are excellent, and satisfy every requirement; but here the value of the book comes to an end. The text seems to have been somewhat hurriedly and carelessly written. In the chapter on "Positive and Negative Quantities," after a number of stock examples, we read (Art. 163): "A quantity to which a + sign is prefixed is called a positive quantity; a quantity to which a − sign is prefixed is called a negative quantity. The absolute value of the quantity is the number represented by this quantity independently of the sign which precedes it." We confess that this puzzles us, and the absurdity of it all is shown six lines lower down, in which appears the expression $8-(-6)$. Does the author really mean to say that $-(-6)$ is a negative quantity, and that its absolute value is -6? Professor Loney seems to make no distinction between a positive quantity and a positive term, and we object altogether to the meaning which is attached by some writers to *absolute value.*

(2) Dr. Lachlan's book forms the first part of a treatise on algebra, and is the best exposition of the elementary portion of the subject that we have seen. This instalment goes as far as arithmetical and geometrical progressions, but does not include indices other than positive integers, or ratio. The text is clear, concise, and trustworthy, and should prove invaluable to the teacher. In using such a text-book a pupil would not have to be told to read this and omit that, but simply to omit nothing: while it would be necessary to emphasize and explain what was most important and difficult. The only faults we have to find are that some chapters include too much and should have been divided into two, and that part of the chapter on "Factors" is unnecessary, or should have been relegated to the second part of the work. What will appear to most a strange feature at first sight is the placing of Quadratic Equations and Simultaneous Quadratics between Multiplication and Division. This is certainly logical, but it would have been better in this instance to state that the somewhat difficult chapter on Quadratics might be postponed until after the chapter on Division had been read.

(3) Mr. Wilson's *Metric Arithmetic* is one of several elementary text-manuals that have appeared recently on the methods of calculation in the metric system. The advantages of the system are clearly explained, and its various applications are illustrated by some hundreds of examples. The perfection of type and arrangement add much to the attractiveness of the manual.

(4) These test questions are intended to cover the work for the Junior Scholarship Examinations held under the various County Councils, and they are useful, also, for the higher standards. There are thirty cards, each containing five questions of a practical and interesting kind. The answers are given on a separate sheet.

(5) Messrs. Routledge give us a wonderful pennyworth of closely-printed and varied information, extending to nearly one hundred pages. A large part of the book is compiled from "Whitaker's Almanack," "Everybody's Pocket Cyclopædia," "News of the World Almanack," Cook's "Continental Time Table," and De la Rue's "Portable Diary," by permission of the proprietors, to whom due acknowledgment is made.

TEXTS WITH NOTES.

(1) *Goldsmith's Vicar of Wakefield.* With Introduction and Notes by Michael Macmillan, M.A. (Macmillan.) (2) *Bunyan's Pilgrim's Progress, in Modern English.* With Introduction and Notes by John Morrison, B.D. (Macmillan.) (3) *Spenser's Faerie Queene.* With Notes and Glossary by W. H. Hill, M.A. (Clive.) (4) *Bacon's Essays.* With Introduction and Notes by Alfred S. West, M.A. (Cambridge University Press.)

(1) Professor Macmillan's *Vicar of Wakefield* is an illustration of the steadily increasing merit of our English "Texts with Notes," especially from the standpoint of literary criticism. His introduction is excellent, for, whilst he does full justice to the real genius of Goldsmith's novel, he does not fail to point out the slipshod in its construction, and the flaws of taste, not to say of decency, which disfigure it. As for the latter, the Vicar's family were scarcely of the same true metal as himself; their faults, which brought about their sufferings, are a foil to the virtues of Dr. Primrose; and the special admiration felt for this story by six generations of Englishmen has been due, partly, no doubt, to the narrative interest, but mainly to the simplicity and guilelessness of the central character. The notes are overdone; if we had had the editing of the volume, we should have dispensed with half of them.

(2) Dr. Morrison displays acumen in his introductory estimate of the *Pilgrim's Progress,* of its popularity as a book of adventure for the young, as an allegory for the middle-aged, and as an actuality for generations of simple-minded Christians. But we object somewhat

strongly to the wholesale manner in which the editor has modernized the worthy Baptist of Bedford. It would take too long to give our reasons in full, but we must protest against such statements as these: that "turn thyself" and "prepare thyself" are no longer used, that "presently" no longer means "immediately" (this from a Scot!), that "faint" is not now good English for "be faint-hearted," nor "settle" for "bench," nor "conceit" for "fine fancy," nor "brave" for "grand," with many others. It is true that Dr. Morrison has his eye on the future Baboo, and is anxious to make his vocabulary clear and select, but he has gone far to spoil John Bunyan—and possibly the Baboo.

(3) Mr. Hill's edition of the first book of the *Faerie Queene* begins with a compact chronology of the poet's life, and continues with a short but fairly adequate criticism of the poem as a whole. The notes are distinctly good.

(4) We welcomed Mr. West's edition of Bacon's *Essays* a short time ago. The publishers have sent us the same work in an alternative form, half-bound in parchment—a needless luxury for the school, but a pleasant addition to the student's bookshelves.

SCIENCE.

(1) *Inductive Elementary Physical Science.* By F. H. Bailey. (Boston: Heath & Co.; London: Isbister & Co.) (2) *Practical Electrical Measurements.* By E. H. Crapper. (Whittaker & Co.) (3) *A Manual and Dictionary of the Flowering Plants and Ferns.* By J. C. Willis, M.A. Two Vols. (Cambridge University Press.)

(1) Mr. Bailey's little book gives instructions for a number of interesting experiments on the properties of air and water, of a kind requiring only simple apparatus (mostly home-made), and suitable for children. According to the sensible American plan, the instructions for performing each experiment are followed, not by a description of what happens, but by a series of questions on what happens, to be answered by the pupil. Similarly, while clear figures of the apparatus are given, they represent it only as prepared for the experiment, and give no suggestion as to the results. We need hardly point out what a valuable training in observation is thus afforded.

(2) An introductory technical manual for electrical engineering students, on whose part a previous general knowledge of electricity and magnetism is evidently assumed. The instructions are very practical. The illustrations, if somewhat rough, are very clear for the most part. The book should prove useful.

(3) We welcome Mr. Willis's two volumes as a much-needed guide to the general student of botany, who has now an ample series of up-to-date morphological books to choose from, but few which treat of plants in their broad aspect as a part of nature without being inaccurately popular. The first volume opens with a useful guide to the chief British botanical gardens, and goes on to general accounts of the vegetative and reproductive organs of ferns and flowering plants, treated from an evolutionary standpoint; the principles of classification; geographical distribution and adaptation to climatic conditions; and the economic uses of plants. Vol. II. is a dictionary, in which genera, orders, classes, &c., all appear in alphabetical order. The information given in the cases we have tested is very good. The abundant cross-references between the two volumes, though troublesome to the reader under certain conditions, must save much space by avoiding repetition. The small number of illustrations is rather a drawback to the usefulness of the book.

MISCELLANEOUS.

Religious Teaching in Secondary Schools. By the Rev. George C. Bell, M.A., Master of Marlborough College. (Macmillan.)

Mr. Bell candidly tells us in his preface that he wrote this book at the suggestion of somebody else, but of course it is none the less possible that he may have felt independently the need for it and the call to write it. In 180 pages he has supplied a large number of sensible and practical suggestions to teachers and parents for lessons on the Old and New Testaments, on early Church history, and on Christian evidences. As a guide to teaching, in schools which teach religion, this little volume will be very serviceable. It avoids distinctive Church dogmas, and is at once devout and manly, liberal, and in thoroughly good taste.

Biblia Innocentium: being the Story of God's Chosen People before the Coming of our Lord Jesus Christ upon Earth, written anew for Children. By J. W. Mackail, sometime Fellow of Balliol College, Oxford. (Longmans.)

Mr. Mackail's paraphrase of the Old Testament—which is a discrimination as well as a paraphrase—was printed two or three years ago, but is known to comparatively few. Effectively published at last, it will be, or should be, known to many. It is a prose poem of the divine history of the world, in two hundred delectable cantos, perhaps containing all that need be known (in the pre-examination phase) of the Old Testament. We are inclined to glance back at our last notice, and say that what Mr. Bell does for the schoolboy candidate Mr. Mackail has done for the imaginative and poetic mind.

"Bell's Cathedral Series."—*Chester.* By Charles Hiatt. *Rochester.* By G. H. Palmer, B.A. (Bell & Sons.)

Mr. Hiatt's *Chester* is a worthy addition to the series of cathedral guides edited by Messrs. Gleeson White and E. F. Strange. It includes an excellent description of the interesting old fabric and a brief history of the episcopal see, and is illustrated by a series of admirable photogravures. Chester Cathedral, in its present condition, affords a notable example of late nineteenth-century ecclesiastical architecture. Mr. Palmer performs a similar task for Rochester Cathedral, tracing its history with much clearness and care.

A Concise Cyclopædia. Edited by William Heaton, assisted by C. H. Bothamley, W. Eagle Clarke, Alfred Denny, and A. J. Reed. Popular edition. (Cassell.)

This one-volume cyclopædia of nearly twelve thousand articles is practically a product of the Yorkshire College at Leeds; and it does great credit to the industry and general accuracy of Mr. Heaton and his coadjutors. It is a repository of useful information on science and technology, geography and topography, biography, history and mythology, and is just the kind of book which we would place in the reference library of a school or college.

The Story of the Heavens. By Sir Robert Stawell Ball, LL.D., D.Sc. Revised edition. (Cassell.)

Sir Robert Ball has made his name familiar in English households, and he has no superior amongst living writers of what we may call the romance of astronomy. A spirited narration of the most indisputable facts of astronomy has much of the genuine character of romance; but when our men of science come to dilate upon precise distances and measurements of the heavenly bodies, and to draw startling and more or less confident inferences from vague meteoric phenomena—why, then the romance is often very gorgeous and attractive. We do not suggest that there is anything approaching to an excess of confidence in Sir Robert Ball's story. His romance is very attractive, and, we are sure, entirely legitimate. We do not criticise this new edition, but only draw attention to its appearance in volume form.

Collins' Complete Atlas. (Collins, Sons, & Co.)

A clearly-printed atlas of eighty-five maps, eighty of them being full-paged, with a plate of astronomical diagrams, two historical maps, and charts showing the distribution of mankind, prevailing religions, and comparative density of population. There is also an alphabetical index of fifty thousand names. This is an exceptionally serviceable collection.

We have received the following publications:—

Who's Who, 1897, edited by Douglas Sladen (A. & C. Black)—first year of a new issue; a curious study in self-contemplation, betraying on every page that anybody who is supposed to be somebody has been allowed to catalogue his own virtues. Needless to add, the book is very entertaining.

The Thirty-ninth Annual Report of the Syndicate for Local Examinations, December, 1896 (Cambridge University Press).

The Code for Day Schools, 1897–8, (Grant & Co.)—*The New Code for Day Schools, 1897–8*, Dr. Heller's Edition (Bemrose); both containing much additional information.

The Record of Technical and Secondary Education, April, 1897 (Macmillan)—including a comparative summary of recent progress in various non-county boroughs and urban districts.

National Union of Teachers' Official Guide to the Swansea Conference (Gill & Sons).

The Royal Holloway College Calendar, 1896–7 with Regulations and Examination Papers (Spottiswoode & Co.).

Governors' Report of the Goldsmiths' Company's Technical and Recreative Institute at New Cross.

Symbolic Logic, by Lewis Carroll, Part I., Elementary (Macmillan)—a fourth edition of the author's very ingenious attempt to popularize the study of Logic, which we noticed with commendation on its first appearance.

Jennifred and other Verses, by Septimus G. Green (Elliot Stock)—pretty poems, without originality, probably the offspring of a contemplative lifetime.

Educational Leaflets, by Members of the Society for the Protection of Birds (*Knowledge* Office)—a series of well-illustrated papers on British Birds.

A Protest against the Modern Development of Unmusical Tone, by Thomas C. Lewis (Chiswick Press)—sensible remarks, especially on organs, church bells, and pianofortes.

Aids for First Lessons in Botany (Newmann)—a packet of designs for colouring.

Science and Art Examination Tests (Newmann)—a stout box of eighty-four large cards, bold and serviceable diagrams, well calculated for plain and practical teaching.

Cardboard Modelling, by J. C. Hudson, assisted by John Cooke (Newmann).—A series of thirty drawings, with practical notes, forming a course of instruction for children from ten years of age upwards.

Macmillan's Writing Sheets, No. 1, white letters on a black ground, printed on staves of three lines (Macmillan).

Cassell's Pictorial Alphabet and Object Lesson Sheet, for infant (schools and kindergarten Cassell)—a cheap re-issue.

Blackie's Object Lesson Sheets, Standards I.–III., in boxes (Blackie)—convenient, and thoroughly adapted for their purpose.

Blackie's Suggestive Conversational Reading Sheets (Blackie)—sixteen sheets, eyeletted.

Royal Portfolio of Pictures and Diagrams for Object Lessons: Plant Life, second series, on a roller (Nelson & Sons)—very useful.

A Hundred of the Chief Flags of all Nations (W. & A. K. Johnston) mounted on rollers, well designed and coloured. From the same publisher: Hanging Pictures of the *Pyramids*, *Harvesting*, *Botany for Beginners*, 1–4, *Coffee Plantation*, *Windsor Castle*—a serviceable and attractive series.

McDougall's "Index" Series of Drawing Cards, Freehand, Standards VI. and VII.; also *Geometry*, Standard VI. (McDougall)—a handy and useful series.

Swiftograph, a simple shorthand system (Jarrold & Son).

Collins's New Graphic Exercise Books, with Headlines and Sums for Junior Classes, 1–4 (Collins, Sons, & Co.).

Examples in Word-Building, with Transcription, Standards II.–V. (Blackie & Son).

Music at the Queen's Accession, by J. Spencer Curwen (Curwen & Sons)—a paper read before the Society of Arts; a very interesting, fully-informed, and concise record of the state of English music in the later forties.

Chambers's Victoria Reader is a matter-of-fact story of the Queen's life, well and simply written, but scarcely what one understands by a "Reader."—Book I. of the *St. George History Readers* (Nelson & Sons) contains stories of little folks from British history; a capital idea, capitally worked out.—The *Waverley Historical Reader*, Book IV. (McDougall) takes us from the end of the fifteenth century to the end of the seventeenth. It is pleasantly written, and well suited to its purpose.—*Chambers's Object Lesson Manuals*, Book III. (W. & R. Chambers), is systematic, carefully prepared, and adequately illustrated.

Questions on "The Tempest," with Hints, by T. D. Barnett, B.A., Lond. (Relfe Brothers).

The Queen's Empire, Part I. (Cassell).—A specially well printed and well illustrated serial, oblong in form, to be continued monthly. The publishers state that this is the first time that photography has been applied, not merely to reproduce natural scenery and architecture, but also to delineate active life in all parts of the world. The work has been in preparation for several years. It is certainly a very good idea.

LITERARY GOSSIP.

The Literary Section of the Welsh Guild of Graduates recommend to the Guild the issue of a series of Welsh books suitable for use in schools and colleges, to be called the "Guild Series of Welsh Classics," and that the Section be empowered to approach a number of publishers with a view to obtaining estimates, or ascertaining the conditions under which the publication of such books could be advantageously undertaken. They also recommend that the Section be asked to draw up a list of not fewer than fifteen works which, in their opinion, should be included in such a series, and to suggest the names of scholars who might be asked to edit them; that, pending the completion of such a list, the following works be approved for the current year:—(*a*) "Deffiniad y Ffydd," by Morris Kyffin, 1595; (*b*) "Y Drych Cristionogawl," by Dr. Griffith Roberts, 1585; and that the editors of these books be appointed by the Section. They further recommend that the Guild authorize the Section to take steps towards the establishment of a Welsh Text Society, having as its object the publication under the auspices of the Guild of unedited MS. works of Welsh poets and prose writers previous to the year 1650; that the Section be asked to report upon the matter at the next annual meeting of the Guild; and that, as a first attempt in this direction, the Section be empowered to make arrangements forthwith for the publication of the poetical works of Thomas Prys, of Plas Iolyn.

The Dialect Section of the same Guild propose to undertake the following work:—(1) The study of dialectical peculiarities of Old Welsh, by comparing, for example, the language of the Venedotian, the Dimetian, and the Gwentian codes of the laws; (2) the study of Welsh prose and poetic writings in their local setting, in order to observe forms peculiar to special districts; (3) careful phonetic study of the actual dialects of the present day; (4) careful study of the boundaries of Welsh dialects.

Messrs. Longmans are publishing "The Autobiography of Kallistratus," a story of the time of the Second Punic War, by Mr. A. H. Gilkes, the Headmaster of Dulwich College. Mr. Maurice Greiffenhagen is supplying illustrations.

Mr. Baedeker, of Leipzig, sends us the first part of a revised fourth edition of Edward Engel's "History of English Literature," which bears witness both to the value of Engel's work and to the constant attention paid by German readers to the productions of English authors.

We regret to note the death of Mr. George F. Armitage, M.A., who was Secretary of the Association of Teachers of Modern Languages, and editor of sundry annotated editions of French authors. Mr. Armitage was also Master of Modern Languages at the Leeds Higher Grade School.

April 26 to 28 were the appointed dates for the meeting at Athens of the first Congress of Classical Archæology. The proposal of a Congress came from M. Homolle, Director of the French School at Athens. It was at once and enthusiastically accepted by the chiefs of the German, English, Austrian, American, and other foreign schools, by the Director of the Russian Institute at Constantinople, and, of course, by the two native bodies, the Athenian Ephorate and the Society of Antiquity. But, as the *Daily News* says, though the foreigner has taken the lead on this occasion, it was the Greeks themselves who first started the work of excavation and study, sixty-eight years ago.

CORRESPONDENCE.

CAMBRIDGE UNIVERSITY.

To the Editor of the Educational Times.

SIR,—As Chancellor of the University of Cambridge, I desire to request your valuable assistance in giving publicity to the accompanying statement concerning the present financial condition and requirements of the University.

On February 4 last, a largely attended meeting was held at Trinity College, presided over by the Vice-Chancellor, to which all the principal officers of the University, as well as representatives of the several Colleges, were invited. A resolution was passed to the effect that steps should be taken to lay a statement concerning the financial condition and requirements of the University before members of the University and the public generally, and a Committee was appointed to draw up the proposed statement and to arrange for its circulation and publication.

The statement is therefore made on behalf of a very large number of those who are conducting the practical educational work of the University, and, though it does not emanate from the Senate, its authority is unquestionable.

It will be observed that no suggestion is made for any immediate appeal to the liberality of the public by the ordinary methods; and it is hoped that when the true position of the resources of the University in relation to its increased duties is fully known, means may be found by which its endowments may be again raised to the level of its present requirements.—I remain, yours obediently, DEVONSHIRE.

Devonshire House, April 22.

[We have given an abstract of the enclosed statement in our leading columns.—EDITOR.]

UNFAIR COMPETITION.

To the Editor of the Educational Times.

SIR,—Referring to your leader in the *Educational Times* for February, will you allow me space to state my full concurrence with your ideas, and also to show how truly they represent the position of private schoolmasters under the present scheme for technical instruction?

As the headmaster of a private school, I applied to the County Council Committee to have my school placed upon the list of those eligible to receive scholars who had taken County Council scholarships, hoping that, as my pass list was a good one, and had been uniformly maintained for years, they might be able to accede to my request. This was refused as impossible under present regulations. What is the result? Every year a large number of the most promising lads in the town—who, under ordinary circumstances, would have passed into my school—are drafted to public schools lying from seven to twenty miles away. The County Council, in consequence, spends in train fares, year by year, a sum sufficient to endow fifty extra scholarships.

It follows, then, that the private school suffers from the loss of the best class of pupil, which increases the advantage of the grant to the public schoolmaster. The status of the private school suffers, as a consequence of the impression in the public mind that the instruction of the private school is not up to the requirements of the County Council Committee; and the pupil, forced to undertake a long railway journey twice a day, and free from all control, forms habits which would not be acquired under other circumstances.

It seems to me, Sir, that the only independence a private

schoolmaster requires is that of being permitted the free use of his own methods of teaching and control, as opposed to the control of incompetent and irresponsible small local committees. But he desires, above all, to court the criticism of a competent body, and to stand on equal terms with his more fortunate brother, the public schoolmaster, by submitting his work to the test of public examination, and being prepared to stand or fall by the results of it.—Yours faithfully,

W. T. BIGGADYKE, A.C.P.

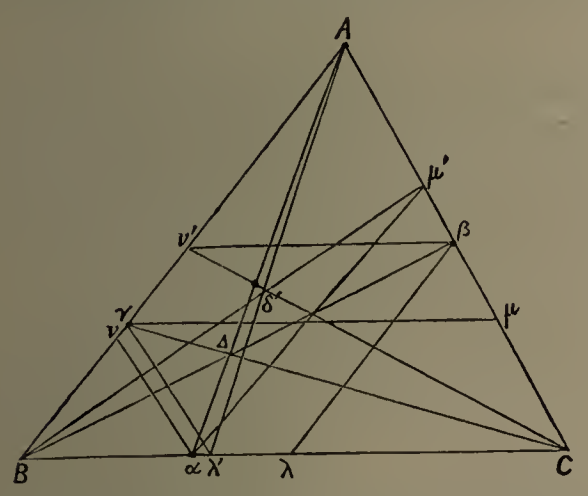
Goole, *April* 17, 1897.

MATHEMATICS.

13420. (Capt. H. BROCARD. Généralisation de la Quest. 8407.)—Les droites qui joignent les sommets d'un triangle ABC à un point Δ déterminent sur les côtés des points α, β, γ, par chacun desquels on mène des parallèles aux deux autres côtés du triangle donné. L'on obtient ainsi les points (λ', λ), (μ', μ), (ν', ν) sur les côtés a, b, c, en suivant les côtés du triangle respectivement dans l'ordre direct des côtés et dans l'ordre inverse. Cela posé, les triangles $\lambda'\mu'\nu'$, $\lambda\mu\nu$, ainsi déterminés, sont homologiques avec le triangle ABC, et admettent pour centres d'homologie deux points δ' et δ, appelés aussi *point direct* et *point rétrograde* par rapport au point Δ (E. LEMOINE). Si le point initial Δ est le point de LEMOINE K, δ' et δ deviennent les points de BROCARD, ω' et ω. M. DE LONGCHAMPS a établi que, dans ce cas, les trois triangles $\lambda'\mu'\nu'$, $\lambda\mu\nu$, $\alpha\beta\gamma$ sont équivalents. Démontrer qu'il en est encore ainsi dans le cas général défini par la construction précédente.

Solution by R. F. DAVIS, M.A.

In the figure $\alpha\nu$, $\beta\lambda$, $\gamma\mu$ are drawn parallel to CA, AB, BC respectively; and $\alpha\mu'$, $\beta\nu'$, $\gamma\lambda'$ are drawn parallel to BA, CB, AC respectively. For simplicity Δ may be taken within ABC so that all segments of the sides are positive, and direction may be disregarded.



Since $A\alpha$, $B\beta$, $C\gamma$ are concurrent, $B\alpha \,.\, C\beta \,.\, A\gamma = C\alpha \,.\, A\beta \,.\, B\gamma$. Hence, by parallels, we have $B\nu \,.\, C\lambda \,.\, A\mu = A\nu \,.\, B\lambda \,.\, C\mu$, and therefore $A\lambda$, $B\mu$, $C\nu$ are also concurrent. Denoting the sides of ABC by a, b, c respectively,

$$\Delta\lambda\mu\nu = \Delta ABC\left\{1 - A\mu \,.\, A\nu/bc - B\nu \;\; B\lambda/ca - C\lambda \,.\, C\mu/ab\right\}.$$

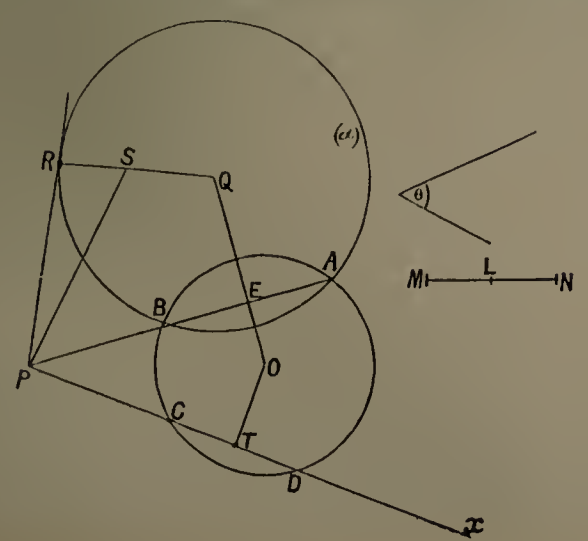
But $\qquad A\mu = A\gamma\,(b/c), \quad A\nu = C\alpha\,(c/a)$, &c.

[The rest in Volume.]

13272. (P. W. FLOOD.)—Given two chords of a circle, the angle at which they meet, and one of the external segments, describe the circle.

Solution by W. E. JEFFARES, B.A.; *the* PROPOSER; *and others.*

Let AB be one of the chords and PB in its production the given external segment, MN the other segment, and θ the given angle.



From P draw Px making with PA an angle equal to the given angle; through A and B describe any arbitrary circle, and from P draw a tangent PR to it; join Q, its centre, with R; take $RS = ML = \frac{1}{2}MN$; join PS; with P as centre and radius PS, describe a circle cutting Px in T. Now at T and E (the middle point of AB) erect perpendiculars. Where these meet in O is the centre of the required circle; and, with OA or OB as radius, describe a circle cutting Px in C and D. This is the required circle. T is the middle point of CD; therefore

$$PT^2 - CT^2 = PD \,.\, PC = PA \,.\, PB = PR^2 = PS^2 - RS^2$$
$$= PS^2 - ML^2 = PT^2 - ML^2;$$
$$\therefore \;\; CT^2 = ML^2, \text{ and } CT = ML; \;\; \therefore \; CD = MN.$$

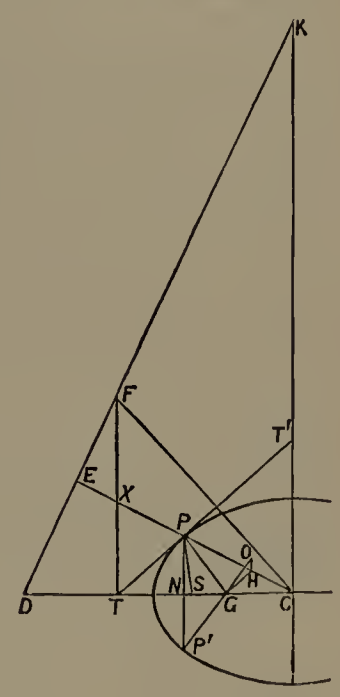
In the above solution it is assumed that OA > OT, which is proved as follows:—

$$OB^2 = OP^2 - PA \,.\, PB = OP^2 - PR^2 > OP^2 - (PR^2 + RS^2) > OP^2 - PS^2$$
$$> OP^2 - PT^2 > OT^2.$$

13330. (W. C. STANHAM.)—Prove, geometrically, that the locus of the foci of parabolas which touch a central conic and its principal axes is the inverse of the evolute of the conic, with respect to the concentric circle through its foci.

Solution by H. W. CURJEL, M.A.; Prof. MUKHOPADHYAY; *and others.*

Let P be the point of contact of one of the parabolas with the conic. Let TPT′ be the tangent at P, cutting the axes CT, CT′ of the conic in T, T′, the foci S, S′ being on CT. Let normal at P meet CT in G.



Draw PNP′ perpendicular to CT, cutting CT in N and the conic in P′. Draw TF at right angles to CT, cutting CP in X, and CF at right angles to TT′, and KFED at right angles to CP, cutting CT′, CP, CT′ in K, E, D.

Then triangles TPC, CFK are clearly similar.

Hence $\quad DT : TC = DF : FK = XP : PC$
$\qquad\qquad = TP : PT'$;

therefore D is the point of contact of CT with the parabola; therefore the focus Y of the parabola is the intersection of circle DEC and circle TCT′; and E is on the circle on CF as diameter.

With respect to the circle on SS′ as diameter, G is the inverse of T, for (SS′, GT) is harmonic; therefore the inverse of circle EFCT is GH, which is drawn perpendicular to CF, *i.e.*, parallel to TPT′; therefore inverse of E is H where GH meets CP. Hence the inverse of circle DEC is OH, which is drawn perpendicular to CT.

[The rest in Volume.]

4800. (Professor CAVALLIN, M.A.)—Find the average area of the triangle cut off by a random line from an equilateral triangle.

Solution by H. W. CURJEL, M.A.

The straight line must make an angle less than $\frac{1}{6}\pi$ with some side of the triangle. Hence, if Δ is the area of the given triangle, mean value

$$= \frac{6\Delta}{\pi}\int_0^{\frac{1}{6}\pi}\left\{\frac{\sin\theta}{\sin\left(\frac{1}{3}\pi+\theta\right)}\int_0^1 \frac{\sin\theta}{\sin\left(\frac{1}{3}\pi+\theta\right)}x^2dx\right.$$
$$\left.+\frac{\sin\left(\frac{1}{3}\pi-\theta\right)}{\sin\left(\frac{1}{3}\pi+\theta\right)}\int_0^1\frac{\sin\left(\frac{1}{3}\pi-\theta\right)}{\sin\left(\frac{1}{3}\pi+\theta\right)}x^2dx\right\}d\theta$$

$$\left[\text{for } \sin\theta + \sin\left(\tfrac{1}{3}\pi-\theta\right) = \sin\left(\tfrac{1}{3}\pi+\theta\right)\right]$$

$$= \frac{2\Delta}{\pi}\int_0^{\frac{1}{6}\pi}\frac{\sin^2\theta+\sin^2\left(\frac{1}{3}\pi-\theta\right)}{\sin^2\left(\frac{1}{3}\pi+\theta\right)}d\theta = \frac{2\Delta}{\pi}\int_0^{1/\sqrt{3}}\frac{5y^2-2\sqrt{3}y+3}{(\sqrt{3}+y)^2(1+y^2)}dy$$

(where $y = \tan\theta$)

$$= \frac{2\Delta}{\pi}\int_0^{1/\sqrt{3}}\left\{\frac{6}{(\sqrt{3}+y)^2}-\frac{1}{1+y^2}\right\}dy = \frac{2\Delta}{\pi}\left\{6\left(\frac{1}{\sqrt{3}}-\frac{\sqrt{3}}{4}\right)-\tfrac{1}{6}\pi\right\}$$

$$= \frac{\Delta}{\pi}\left(\sqrt{3}-\tfrac{1}{3}\pi\right).$$

13295. (I. ARNOLD.)—If two weights P and Q sustain each other on two inclined planes AB, AC, having a common altitude A, and if a circle be described through the points A, P, Q, and P and Q be connected by a string passing over a pulley E in any part of this circumference, prove that P and Q will still be in equilibrium.

Solution by Rev. J. Cullen, B.A.; H. W. Curjel, M.A.; *and others.*

Since P and Q sustain each other,

$$P \sin\theta = Q \sin\theta_1,$$

Also $$P \sin\theta = T\cos(\theta-\phi),$$

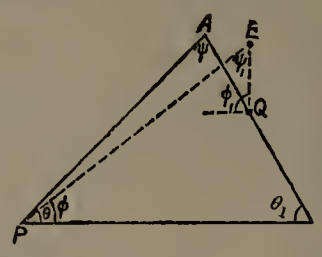
$$Q \sin\theta_1 = T\cos(\phi_1-\theta_1),$$

T being the tension in the string;

$$\therefore\quad \cos(\theta-\phi) = \cos(\phi_1-\theta_1),$$

or $$\theta-\phi = \phi_1-\theta_1;$$

$$\therefore\quad \psi = \psi_1.$$



Hence the locus of E is a circle passing through P, A, and Q.

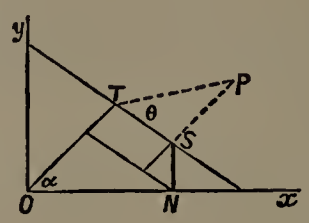
13427. (W. C. Stanham.)—If the pair of equations

$$lx+my+n\pm i\,(l'x+m'y+n') = 0 \quad [\text{where } i = (-1)^{\frac{1}{2}}]$$

are interpreted as representing the locus of the extremity of a line of length $\pm\{(l'x_1+m'y_1+n')/n\}$ units of length, drawn from a variable point (x_1, y_1) in the line $lx+my+n=0$, parallel to a fixed straight line L which neither lies in the plane of (x, y) nor is parallel to it, show that the equations of a pair of imaginary tangents to the circle $x^2+y^2=a^2$ from a point (x', y') within it represent two straight lines, and find their angle of inclination to the plane of (x, y) when L is perpendicular to this plane. Mention the limiting values of this angle for limiting values of a and positions of (x', y').

Solution by the Proposer.

If the axis of z is taken parallel to L, the locus of the extremity is clearly the intersection of the plane $lx+my+n=0$ with the planes $z = \pm\{(l'x+m'y+n')/n\}$ units of length, and is therefore two straight lines.



Let $$x\cos(\alpha\pm i\beta)+y\sin(\alpha\pm i\beta) = a$$ be the equations of the tangents. Then, if

$$e^{\beta}+e^{-\beta} = 2\sec\phi,$$

this may be written in the form

$$(x\cos\alpha+y\sin\alpha)\sec\phi-a\pm i\,(x\sin\alpha-y\cos\alpha)\tan\phi = 0.$$

[The rest in Volume.]

13428. (C. Mitchell.)—EF is a portion of the circumference of a circle of which O is the centre; A and B are two given points in the same plane. Find, by a geometrical construction, a point R on the circumference such that lines drawn from A and B to R shall make equal angles with the radius OR. [A geometrical curve, such as a conic, may be employed to determine the required point.]

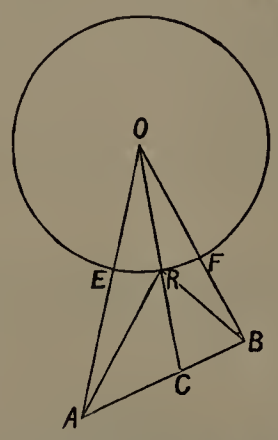
Solution by Morgan Brierley.

Join the points AB, and draw the lines OA, OB.

In AB take the point C, so that

$$AC : AB = OA : OB,$$

and draw OC, intersecting the circumference of the circle in R, which will be the point required.



For OC bisects the $\angle$AOB (*Euc.* vi. 3), and, obviously, the $\angle$ARB, since

$$AR : RB = OA : OB = AC : AB.$$

Therefore $$ORA = ORB.$$

13425. (J. J. Walker.)—Show that the vector equation to the surface generated by a transversal meeting the three lines through the terms of the vectors λ, μ, ν and parallel to the vectors α, β, γ respectively is

$$\xi S\alpha\beta\gamma = \Sigma\,\alpha\,\{(1+h_1)S\mu-h_1S\nu\}\,V\beta\gamma, \quad \text{with} \quad 1+\Sigma h_1+\Sigma h_2h_3 = 0.$$

Solution by Rev. J. Cullen, B.A.

The equations of the directing lines are $\rho_1 = \lambda+x\alpha$, $\rho_2 = \mu+y\beta$, and $\rho_3 = \nu+z\gamma$. Let ξ be the vector to an arbitrary point on the transversal; then we have $$\xi = h_1(\rho_2-\rho_3)+\rho_2 = (1+h_1)\rho_2-h_1\rho_3 \quad\ldots\ldots(1),$$

also $$\xi = (1+h_2)\rho_3-h_2\rho_1 \quad\ldots\ldots(2),$$

$$\xi = (1+h_3)\rho_1-h_3\rho_2 \quad\ldots\ldots(3).$$

Operating on (1), (2), and (3) with $S\beta\gamma$, $S\gamma\alpha$, and $S\alpha\beta$ respectively, we get $$S\beta\gamma\xi = \{(1+h_1)S\mu-h_1S\nu\}\,V\beta\gamma, \text{ \&c.}$$

[The rest in Volume.]

13399. (Rev. J. Cullen, B.A.)—Find the general term and the sum to n terms of the series

$$1+2+16+77+391+1952+\ldots.$$

Solution by W. E. Jeffares, B.A.

Let a convergent series be assumed with the given numbers as coefficients, thus $$S = 1+2x+16x^2+77x^3+391x^4+1952x^5+\ldots$$

From the following equations the coefficients of the scale of relation can be found:—

$$f+2g+16h = 77, \quad 2f+16g+77h = 391, \quad 16f+77g+391h = 1952.$$

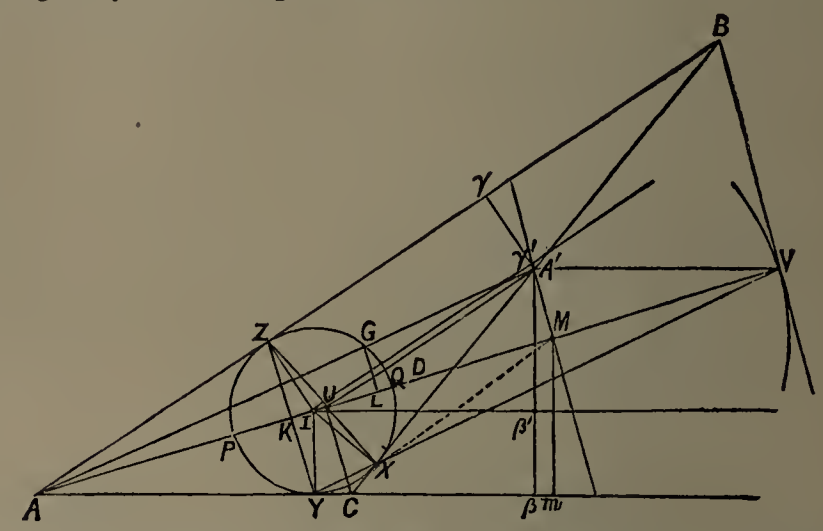
[The rest in Volume.]

2916 & 4813. (I. H. Turrell.)—To construct a triangle geometrically, having given the vertical angle, radius of inscribed circle, and the centre of gravity of the triangle on the circumference of the inscribed circle.

Solution by C. E. Hillyer.

Let AZB, AYC be two tangents to the given circle XYZ containing ths given angle A. I is the centre of the circle, and AI meets the circumference in P, Q, and YZ in K.

In AQ produced take D so that DQ . DP = DY². Produce AD to M so that DM = ½AK. Describe a circle with centre M cutting XYZ orthogonally and meeting AM in U and V.



Let ZU, YV meet in X; then X shall be on the circumference of given circle, and, if BXC be the tangent at X, ABC shall be the triangle required.

[The rest in Volume.]

13342. (Professor Neuberg.)—On donne un losange ABCD, et l'on joint un point quelconque P de la diagonale AC aux sommets B et D, puis un point quelconque Q de la diagonale BD aux sommets A et C. Démontrer que les quatre droites ainsi menées forment un quadrilatère inscriptible, et trouver le lieu du centre de la circonférence circonscrite à ce quadrilatère lorsque P est fixe et que Q se meut sur BD.

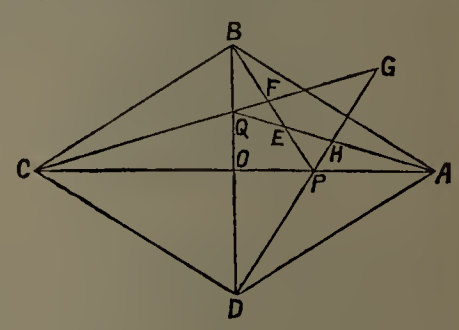
Solution by H. W. Curjel, M.A.; *and* W. E. Jeffares, B.A.

Let the diagonals AC, BD of the rhombus meet in O, and AQ, CQ meet BP in E, F, and PD in H, G.

Then

$$\angle BEQ = \angle EBA+\angle EAB$$
$$= \angle ADP+\angle BCQ$$
$$= \angle FGH;$$

therefore E, F, G, H are concyclic.



Take OA, OB as axes of x and y; let OA, OB, OP, OQ = a, b, c, m.

Equations to BP, QA are

$$x/c+y/b = 1, \quad x/a+y/m = 1.$$

[The rest in Volume.

13372. (R. Knowles, B.A.)—If PP′ be a diameter of a central conic, and a tangent from P meets a chord P′R in Q, prove that the tangent from R bisects PQ.

Solution by Rev. J. Cullen, B.A.; W. J. Greenstreet, M.A.; *and others.*

Take the tangent and normal for axes. Then the conic is

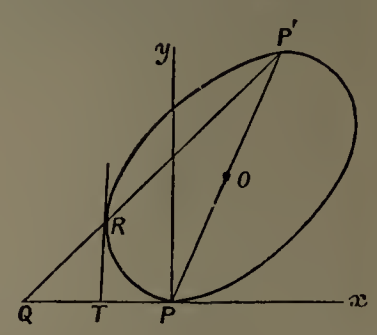
$$ax^2+2hxy+by^2+2fy = 0.$$

The chord P′R is $y = mx-(m\alpha+\gamma)$,

where $$\alpha = 2hf/(ab-h^2),$$
$$\gamma = 2af/(ab-h^2);$$
$$\therefore\quad PQ = (m\alpha+\gamma)/m.$$

Tangent at R (x_1, y_1) cuts axis of x in T.

$$PT = -fy_1/(ax_1+hy_1),$$



where

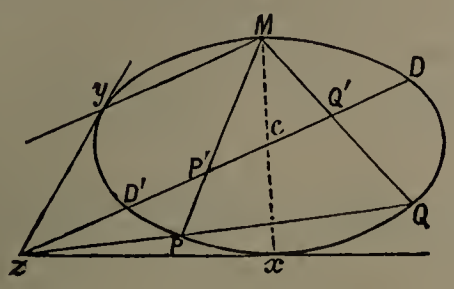
$$x_1 = (m\alpha+\gamma)(h+bm)/(a+2hm+bm^2),$$

and $y_1 = -(m\alpha+\gamma)(a+hm)/(a+2hm+bm^2)$; $\therefore$ 2PT = $(m\alpha+\gamma)/m$ = PQ.

[Professor A. Droz-Farny solves the question as follows:—Soient O le centre de la conique et T le point d'intersection de la tangente en R avec PQ. T étant le pôle de PR, cette droite sera divisée en A en parties égales par le diamètre TO. Comme PA = AR et PO = OP′, TO est parallèle à OP′ et par conséquent PT = TQ.]

13422. (A. Gordon.)—Show geometrically how to find a point M on an ellipse such that, P, Q being two points on the same side of any diameter DCD′, MP, MQ shall cut off equal segments on this diameter measured from c, the centre. [Extension of one of Professor Catalan's.]

Solution by Professor A. Droz-Farny.



I Cas: Les points P *et* Q *sont sur l'ellipse.* — Soit M le point cherché ; tirons MP et MQ qui coupent DD′ en des points P′ et Q′ tels que CP′ = CQ′ = λ. Lorsque λ varie les paires de droites telles que MP′ et MQ′ engendrent une involution à laquelle appartiennent les droites MD et MD′ et les rayons doubles Mcx (λ = 0) et My parallèle à DD′ pour λ = ∞. D'après un théorème connu, les droites PQ, DD′, les tangentes à l'ellipse en x et y, concourent en un même point z. On a de là la solution suivante : PQ et DD′ se croisent en z ; de z on mène à l'ellipse les tangentes zx et zy ; les points M et M′, diamétralement opposés de x et de y, sont deux solutions du problème.

[The rest in Volume.]

13348. (Professor H. L. Orchard, M.A., B.Sc.)—Sum to n terms the series $s = 3 + 5 + 14 + 36 + 88 + 208 + \&c.$

Solution by Rev. D. Thomas, M.A. ; W. J. Greenstreet, M.A. ; *and others.*

The sum of n terms of s is the same as 3 plus the sum of $n-1$ terms of

$$1.5 + 2.7 + 4.9 + 8.11 + 16.13 + \&c.,$$

which sum is $-1 + 2^{n-1}(2n-1)$ because the nth term is $2^{n-1}(2n+3)$;

13241. (J. J. Barniville, B.A.)—Prove that

$$\frac{1}{1+1} + \frac{1}{2+1} + \frac{1}{5+1} + \frac{1}{13+1} + \ldots = \frac{\sqrt{5}}{2},$$

$$\frac{1}{1+i} + \frac{1}{3+i} + \frac{1}{8+i} + \ldots = 1 - \frac{i}{2}(\sqrt{5}-1).$$

Solution by Professors Sanjána, Krishmachandra De, *and others.*

By the usual transformation into a continued fraction,

$$\text{the first series} = \frac{1}{2-}\,\frac{4}{5-}\,\frac{9}{9-}\,\frac{36}{20-}\,\frac{196}{49-}\ldots = \frac{1}{2-}\,\frac{4}{5-x},$$

where $$x = \frac{1}{1-}\,\frac{1}{5-}\,\frac{1}{1-}\,\frac{1}{5-}\ldots = \frac{5-\sqrt{5}}{2}, \text{ evidently.}$$

Thus the first series $= 1 \Big/ \left(2 - \dfrac{8}{5+\sqrt{5}}\right) = \dfrac{5+\sqrt{5}}{2+2\sqrt{5}} = \dfrac{\sqrt{5}}{2}.$

By rationalization, the second series

$$= \frac{1-i}{2} + \frac{3-i}{10} + \frac{8-i}{65} + \frac{21-i}{442} + \ldots$$

$$= \tfrac{1}{2} + \tfrac{1}{2} - \tfrac{1}{5} + \tfrac{1}{5} - \tfrac{1}{13} + \tfrac{1}{13} \ldots - i\left(\frac{1}{1.2} + \frac{1}{2.5} + \frac{1}{5.13}\ldots\right)$$

$$= 1 - i\,\frac{\sqrt{5}-1}{2}.$$ (See solution of Quest. 13118, Vol. LXV., p. 117.)

13341. (R. Chartres.)—If three points be taken at random in the sides of a triangle, one in each side, prove that the mean value of each $= \frac{1}{4}\Delta$; also, if two points be taken at random in the sides, the mean value of the triangle AFE cut off $= \frac{1}{4}\Delta$.

Solution by H. W. Curjel, M.A. ; Professor Mukhopadhyay ; *and others.*

If two points are fixed, the mean value is clearly obtained by placing the remaining point at the middle point of its range, *i.e.*, of the side in which it is. If this be done with all three points in succession, the triangle will be divided into four equal triangles. Therefore mean value of each of the triangles (including AFE) $= \frac{1}{4}\Delta$.

4909. (Professor Genese, M.A.)—Find functions f and ϕ of two variables, so that $\alpha = f(xy)$, $\beta = \phi(xy)$, $x = f(\alpha\beta)$, $y = \phi(\alpha\beta)$.

Solution by H. W. Curjel, M.A.

An obvious form of the functions f and ϕ is

$$f(x, y) = \psi^{-1}\{a\psi(x) + b(1+a)\chi(y)\},$$

$$\phi(x, y) = \chi^{-1}\left\{\frac{(1-a)}{b}\psi(x) - a\chi(y)\right\},$$

where ψ and χ are arbitrary functions. This appears to be the most general form.

3761. (W. Siverly.)—One end of a rod, whose length is equal to the diameter of a spherical shell, is passed through a hole in the shell and made to touch every point of the interior surface: find the surface described by the other end of the rod.

Solution by H. W. Curjel, M.A. ; Professor G. B. M. Zerr, M.A. ; *and others.*

Let $(x+a)^2 + y^2 + z^2 = a^2$ be the equation to the sphere. The generating curve is evidently the cardioid $r = 2a(1-\cos\theta)$; therefore the equation to the surface described is $(x^2+y^2+z^2)^2 + 4ax(x^2+y^2+z^2) = 4a^2(y^2+z^2)$, the part described by the end of the rod corresponding to positive values of x.

QUESTIONS FOR SOLUTION.

13491. (The late Professor Sylvester.—Jan. 1897.)—Let j be any integer, p a prime, ρ any irrational root of $\rho^p = 1$, and $U_x = \Sigma\rho^x/(1-\rho)$. Prove that, if $x + x' \equiv j \bmod p$, then $U_{x'} = (-)^j U_x$; and show that, when j is odd and $x = \frac{1}{2}\{(2k+1)p + j\}$, then $U_x = 0$.

13492. (Professor Crofton, F.R.S.)—Prove that

$$(x+y+z)^3 - 9(x^2y + y^2z + z^2x)$$

is resolvable into three linear factors.

13493. (Professor Neuberg.)—Résoudre le système d'équations

$$\sin x \cos y = c, \quad \sin y \cos z = a, \quad \sin z \cos x = b.$$

13494. (The late Professor Wolstenholme, M.A., Sc.D.)—In a finite tetrahedron OABC, such that

$$\triangle OBC + ABC = OCA + OAB,$$

prove that

$$\begin{vmatrix} 1, & 1, & 1, & 1 \\ b^2+c^2-x^2, & y^2+z^2-x^2, & b^2+z^2-a^2, & y^2+c^2-a^2 \\ c^2+a^2-y^2, & a^2+z^2-b^2, & z^2+x^2-y^2, & c^2+x^2-b^2 \\ a^2+b^2-z^2, & a^2+y^2-c^2, & x^2+b^2-c^2, & x^2+y^2-z^2 \end{vmatrix} \equiv 0,$$

and that, in any tetrahedron,

$$\begin{vmatrix} 1, & 1, & 1, & 1 \\ b^2+c^2-x^2, & y^2+z^2-x^2, & a^2-b^2-z^2, & a^2-y^2-c^2 \\ c^2+a^2-y^2, & b^2-a^2-z^2, & z^2+x^2-y^2, & b^2-c^2-x^2 \\ a^2+b^2-z^2, & c^2-a^2-y^2, & c^2-x^2-b^2, & x^2+y^2-z^2 \end{vmatrix} = -1152V^2,$$

where V is the volume of the tetrahedron, a, b, c are the lengths of three conterminous edges, and x, y, z are the lengths of the respectively opposite edges.

13495. (Professor C. Cochez.)—On donne un triangle équilatéral ABC, son centre de gravité en G. Lieu des points M tels que

$$MA \,.\, MB \,.\, MC = (AG)^3.$$

13496. (Professor Sanjána, M.A.)—If p_r denote the coefficient of x^r in $(1-x)^{-\frac{1}{2}}$, prove that $\log 4 = p_1 + \frac{1}{2}p_2 + \frac{1}{3}p_3 + \ldots$,

$$\log(\sqrt{2}+1) = p_1 + \tfrac{1}{3}p_3 + \tfrac{1}{5}p_5 + \ldots = 1 - \tfrac{1}{3}p_1 + \tfrac{1}{5}p_2 - \tfrac{1}{7}p_3 \ldots.$$

13497. (Professor A. Droz-Farny.)—Si, dans un triangle ABC, l'angle A est égal à 45°, la droite qui joint le centre du cercle circonscrit au pied de la hauteur abaissée de A passe par le point de Lemoine.

13498. (Professor H. Langhorne Orchard, M.A., B.Sc.)—If (in the usual notation) S denote the area of a plane triangle, and S_{abc} denote that of the triangle formed by joining the centres of the escribed circles, show that $S : S_{abc} = r : s$, s being the radius of the circumscribing circle.

13499. (Professor W. Booth.)—If α, β, γ, δ be the roots of

$$ax^4 + 4bx^3 + 6cx^2 + 4dx + e = 0,$$

express

$$4(\beta\gamma - \alpha\delta)\left[(\alpha+\delta)\beta\gamma - \alpha\delta(\beta+\gamma)\right]$$
$$-(\beta+\gamma-\alpha-\delta)^2\left[(\alpha+\delta)\beta\gamma + \alpha\delta(\beta+\gamma)\right],$$

in terms of the coefficients.

13500. (Professor Ramaswami Aiyar, M.A.)—The natural harmonic progression being divided into the two series

$$1 + \tfrac{1}{3} + \tfrac{1}{5} + \ldots \quad \text{and} \quad \tfrac{1}{2} + \tfrac{1}{4} + \tfrac{1}{6} + \ldots,$$

show that the sum of n terms of the former series is less than the sum of $4n$ terms of the latter series by a quantity which diminishes as n increases and vanishes when $n = \infty$.

13501. (Editor.)—Through a point, taken at random within a circle, a chord is drawn at random to cut two fixed diameters of the circle ; find the probability of the triangle thus formed being acute-angled.

13502. (D. Biddle.)—(1) Produce the given line AB through B to P, so that, BP being bisected in Q, the product of AP, AQ, PQ may equal a given quantity ; and (2) find another point R in AP, such that

$$m \,.\, AQ \,.\, PQ = AR \,.\, PR.$$

13503. (H. Fortey, M.A.)—If

$$\phi(x) = \frac{1}{(1-x)^n}\sum_{r=0}^{r=n}(-1)^r\,\frac{2n-2r+1}{r!\,(2n-r+1)!}\,x^{\frac{1}{2}r(2n-r+1)}$$

(where, as usual, $0! = 1$), show that (1) $\phi(x)$ is an integral function of x of the degree $\frac{1}{2}n(n-1)$, and, when $x = 1$, $\phi(x) = 1/(n!\,2^n)$; (2) if a_r is the coefficient of x^r in the series for $\phi(x)$, then $n!\,2^n \,.\, a_r$ is the chance of $\frac{1}{2}n(n-1) - r$ intersections if n chords are drawn at random in a circle.

13504. (George Heppel, M.A.)—Show that, if any two of the following four fractions are equal, all four are equal:—

$$\frac{\sin(\theta+\alpha)\sin(\beta+\gamma)}{\sin\gamma\sin(\alpha+\beta)},\quad \frac{\sin(\theta-\beta)\sin(\alpha+\delta)}{\sin\delta\sin(\alpha+\beta)},$$
$$\frac{\sin(\theta+\gamma)\sin(\alpha+\delta)}{\sin\alpha\sin(\gamma+\delta)},\quad \frac{\sin(\theta-\delta)\sin(\beta+\gamma)}{\sin\beta\sin(\gamma+\delta)}.$$

13505. (R. F. Davis, M.A.)—Show that three numbers of the form

$$2pq(3p^4-10p^2q^2+3q^4),\quad 8pq(p^4-q^4),\quad (p^2-q^2)(p^4-14p^2q^2+q^4)$$

are such that the sum of the squares of any two of them is a perfect square (*e.g.*, $44^2+240^2=244^2$, $117^2+240^2=267^2$, $44^2+117^2=125^2$).

13506. (Rev. T. Wiggins, B.A.)—(1) Sum to n terms the series

$$\frac{1}{1.3.5}+\frac{2}{1.3.5.7}+\frac{3}{1.3.5.7.9}+\ldots+\frac{n}{1.3\ldots(2n+3)};$$

(2) find the sum of 25 terms, and the 25th terms of

10 19 36 68 128 240 448 832 1536 2815.

13507. (L. E. Reay, B.A.)—An ellipse is cut at P and P′ by a tangent to its minor auxiliary circle. Prove $PP' = HP \sim SP'$.

13508. (R. W. D. Christie.)—The resultant

$$=(P^2+Q^2+R^2-PQ-QR-RP)^{\frac{1}{2}},$$

and $$\tan ROM = [(Q-R)\sqrt{3}]/(2P-Q-R).$$

The three values are

$$P,\ P-b^2+c^2,\ P+2bc-b^2;\qquad P,\ P-2bc+c^2,\ P-2bc+b^2;$$
$$P,\ P+b^2-c^2,\ P+2bc-c^2.$$

13509. (W. E. Jeffares, B.A.)—Find the complete solution of

$$\{(x-\beta+\gamma)(\beta+\gamma-2\alpha)\}^5+\{(x-\gamma+\alpha)(\gamma+\alpha-2\beta)\}^5$$
$$+\{(x-\alpha+\beta)(\alpha+\beta-2\gamma)\}^5=0.$$

13510. (J. J. Barniville, B.A.)—Prove, without using decimals, that $\pi^3>31$.

13511. (R. Chartres, M.A.)—A circle passes through Fermat's point of an isosceles triangle and touches the base; find (1) the locus of its centre, and (2) the mean value of the circles.

13512. (R. Knowles, B.A.)—PQ, CD are common chords of a circle centre O, and rectangular hyperbola centre C; TT′ are the poles of PQ and CD with respect to the hyperbola; prove that CO bisects TT′.

13513. (Morgan Brierley.)—Given a diagonal = 60, and the difference = 12, of the diameters of the frustum of a cone, to determine its contents a maximum.

13514. (P. W. Flood.)—Between a tangent drawn to one end of the segment of a circle, and the chord produced, draw another tangent divided by the point of contact into two segments, that shall be in a given ratio. Solution required purely geometrically.

13515. (Charles Mitchell.)—Divide an ellipse whose axes are 4″ and $2\frac{3}{4}$″ into *three* parts equal in area and perimeter. A geometrical solution is desired.

13516. (J. Macleod. Being an amended form of 13096.)—The tangent at the point P to a hyperbola meets the auxiliary circle in B, SB meets S′P in D, and BCE is a diameter of the circle, and $\angle ECF = S'DS$. BF is produced to meet PS in G. Prove that $\angle G = \frac{1}{2}(DSP - S'PS)$, when the $\angle S'PS$ does not exceed $\frac{2}{3}$ of a right angle and $= \frac{1}{2}(S'PS - DSP)$ when it exceeds $\frac{2}{3}$ of a right angle.

13517. (H. MacColl, B.A.)—Dividing all statements into three classes—(ϵ) *certainties* (always true), (η) *impossibilities* (never true), (θ) *variables* (possibly true, possibly false)—to which classes must the statements α, β, u, v respectively belong, so that the implication

$$(u_\alpha+u_\beta)(\alpha_v+\beta_v) : u_v$$

(denoted by ϕ) may be a *certainty?* To which classes so that ϕ may be an *impossibility?* *Defs.*—The three symbols AB, A + B, A_B (or A : B) respectively assert that A and B are *both* true; that either A or B is true; that if A is true B is true. *Note.*—There are several solutions, of which one is that ϕ is an *impossibility* when α and u are both *certainties*, and β and v both *impossibilities*.

NOTICE TO CORRESPONDENTS.

Owing to the Mathematical Editor's illness, it is requested that, till further notice, all Mathematical communications should be sent, not to the Editor's private address as heretofore, but to

D. Biddle, Charlton Lodge, Kingston-on-Thames.

NOTICE.—Vol. LXVI. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.*; *to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

Thursday, April 8th, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Present, seventeen members.

The Rev. A. H. Frost, M.A., St. John's College, Cambridge, Mr. S. H. Burbury, F.R.S., late Fellow of St. John's College, Cambridge, and Mr. E. T. Whittaker, B.A., Fellow of Trinity College, Cambridge, were elected members.

The following gentlemen were admitted into the Society:—Dr. R. Bryant, Rev. F. H. Jackson, M.A., Mr. F. W. Lawrence, B.A., and Mr. A. Young, B.A.

The President dwelt upon the loss the Society had sustained by the death of Prof. Sylvester, its second President, and stated that, at the wish of the Council, he would write a message of sympathy to the relatives of the deceased Professor.

The Rev. F. H. Jackson read a paper on "The Extension of a Theorem connected with Gauss's Hypergeometric Series."

Mr. F. S. Macaulay, M.A., gave a sketch of a note on "The Deformation of a closed Polygon, so that a certain Function remains constant."

The President communicated a paper by Prof. A. Sommerfeld "Ueber verzweigte Potentiale im Raum."

Mr. Love, F.R.S., gave an abstract of a paper by Prof. R. A. Sampson, M.A., entitled "A Continuation of Gauss's *Dioptrische Untersuchungen*."

Mr. S. Roberts, F.R.S., having taken the Chair, the President read the following papers:—

"On the Potentials of Rings," by Mr. A. L. Dixon, M.A.

"Certain Concomitant Determinants," by Mr. J. W. Russell, M.A.

Mr. R. Hargreaves, M.A., and Lt.-Col. Cunningham, R.E., made impromptu communications. The latter gentleman announced the following primes:

305,175,781; 466,344,409; 550,554,229; 632,133,361.

He also gave the prime factors of $3^{105}+1$, one of the largest numbers that has been completely resolved into prime factors, viz.:

(211 . 1051 . 3,454,081), (24151 . 3,369,031).

The first resolution is due to Mr. C. E. Bickmore, M.A., the second is the resolution due to Lt.-Col. Cunningham.

Mr. S. Roberts proposes to read a paper at the May meeting, on "Cubic Curves, as connected with certain triangles in perspective."

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THE

EDUCATIONAL TIMES,

AND

Journal of the College of Preceptors.

Vol. L.] New Series, No. 434. JUNE 1, 1897. {Price to Non-Members, 6d. By post, 7d.

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The Chair will be taken at 7.30 p.m., and a discussion will follow the reading of the Paper.

Members have the privilege of introducing their friends.

C. R. HODGSON, B.A., *Secretary.*

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Section II., clause 5.—"The Council may grant the privileges of Membership, without payment, to holders of Diplomas of the College, as long as such persons are engaged in teaching in Secondary Schools."

Holders of the College Diplomas who are not Members of the College are requested to send their Addresses to the Secretary of the College, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., *Secretary.*

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COLLEGE OF PRECEPTORS.—
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With the view of encouraging the systematic training of teachers for their profession, the Council have established four Scholarships (two for male and two for female candidates), which will be offered for competition at the Certificate Examination in June, 1897.

The value of each of these Scholarships is £45 for a single year, or £30 a year for two years, if the candidate should determine to extend the period of training over more than one year.

The Scholarships for male candidates are tenable only at the College of Preceptors' Training College; those for female candidates are tenable at any Training College for Teachers in Secondary Schools, either at home or abroad, that may be approved by the Council.

Candidates (who must not be under 18 or over 21 years of age at the date of the Examination) are required to declare their intention of competing for these Scholarships prior to the Examination, and to submit such testimonials of character as may be considered satisfactory by the Council.

The Scholarships will be awarded to those candidates who, having fulfilled the above conditions, obtain the highest places in the Honours Division of the First Class.

C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.

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Syllabus and Forms of Entry can be obtained of the Secretary. The last day for entry is June 15.

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Resolutions of the College of Preceptors (1893–6) in view of the Proposed Reorganization of Secondary Education.

1. That early legislation for the organization of secondary education is necessary, more especially in view of the increasing tendency of the authorities engaged in providing primary education to occupy the legitimate field of secondary education, and the consequent overlapping of educational authorities and agencies.

2. That, whatever form the legislative organization of secondary education may eventually take, it is very desirable that there should, without delay, be introduced into Parliament a measure, or measures, (i.) for delimiting primary education, and (ii.) for providing for the registration of persons qualified to teach in secondary schools.

3. That it is desirable, for the purpose of registering such teachers, to create at once an Educational Council, including a large professional element, to which, from time to time, other functions in connexion with secondary education should be entrusted.

4. That provision should be made for the adequate representation of the teaching profession on all bodies having control over secondary education.

5. That in any scheme for the organization of secondary education it is both in accordance with justice and for the public interest that all existing agencies for the supply of such education should be utilized, provided they comply with all reasonable conditions of efficiency.

6. That, both in estimating the needs of any district in respect of secondary education and in allocating public money to the purposes of secondary education, efficient private and proprietary schools should be placed on the same footing as public schools.

7. That the setting up of schools established and maintained by public money in the neighbourhood of existing efficient schools (whether endowed, proprietary, or private) which are entirely or partially self-supporting, at such low fees as to undersell them, would tend rather to impair the efficiency of good schools than to eliminate the inefficient.

8. That the efficiency of secondary schools should be certified by educational experts, or by examination or inspection by recognized public bodies, and should not be decided by persons inexperienced in secondary education.

9. That no scheme for the organization of secondary education would be complete which does not recognize the necessity of providing for the professional training of secondary teachers.

The Educational Times.

The Duke's Warning.

We had ground for saying last month that "a Secondary Education Bill may be introduced at any moment, and without much warning in advance." Now the warning has come, and, although it is not much in advance of the Bill, which is to be introduced this Session, there should be ample time for discussion before Parliament is called upon to debate it. By deciding (so far as the decision rested with him) to introduce the Bill shortly, though it will not be proceeded with this year, the Duke of Devonshire has shown his wonted sense and consideration. The course is entirely convenient for the educational bodies who will be so closely affected by the measure; and the time which it will allow for exhaustive discussion bodes well for a general agreement on the principle of a wise and prudent measure. In any case we shall have full opportunity of considering the first draft of the Bill, and of comparing it with the outline of secondary organization which was agreed upon by the various Conferences of 1896. If need be, other Conferences can be held in the autumn, or, short of that, the Bill can be analysed and discussed in detail.

It is well to recognise beforehand that no measure can, by any possibility, be framed which will satisfy all the various interests involved. There is sure to be disappointment in more quarters than one, with ample room for compromise. It would be idle to enlarge upon special points of difficulty at a moment when every one is waiting for precise details, and for the formal programme of the Government. Although it is clearly stated that the secondary clauses of last year's Bill have been amended and added to, it is, we fear, chimerical to hope that the Government will offer us all that we could wish in the way of a professional and expert Council of Appeal, attached to the Central Authority, and justifying universal confidence by virtue of a representative element. If we do not get this, and all that this implies, then we foresee that it may be more necessary to contend for the strengthening of the guarantees than for symmetry of organization or the adequacy of particular constructive clauses. The clauses may be all-important, but the guarantees are indispensable.

The interesting duologue in the House of Lords, on May 21, in the course of which the Lord President announced the

decision of the Government, consisted of a question from Lord Norton, prompted, no doubt, by the Duke of Devonshire, and of the Duke's reply. Lord Norton declared that the stopgap elementary measures passed this Session only increased the need of "a better adjustment of secondary education in our national system." The higher-grade Board schools have not provided a genuine secondary education, but only confused the primary and secondary stages together.

Primary education was overlaid with many wholly irrelevant subjects; there was no clue to the subjects of instruction which properly belonged to it. The Elementary Code was simply a heap of confusion, and by the system of annual addition it was becoming worse confounded every year. Secondary education was equally damaged by this confusion; it was treated simply as a department of elementary instruction, or, if not, it was confused with a great variety of perfectly disconnected institutions, which had the result of preventing systematic action and continuity of education. It was on this ground that he called the attention of the Government to the absolute necessity of readjusting the confusion. In point of administration, also, he urged that, so far as the education question was to be undertaken by the State, there must be a central Department instead of the half-dozen Departments which were now overlapping each other in their action and competing with each other, thereby hindering anything like systematic continuity.

This criticism, our readers will observe, is the average opinion of the average sensible man, on the subject of primary and secondary education. Both are suffering by the confusion which has been allowed to grow up between them, and the very continuity which the School Boards aimed at securing has been compromised by want of proper organization. The Duke of Devonshire is well aware of this fact, and has himself drawn attention to it; but he did not follow Lord Norton on those particular lines. His object in getting himself questioned on the subject of secondary education was that he might make a concise and definite statement in a casual and informal manner; and he pledged the Government once more to "the earliest possible moment."

Considering [he said] the time that has been devoted by Parliament already to educational questions this year, I do not entertain any hope that we shall be able to ask Parliament to deal seriously with the subject in the course of the present Session. However, I think it will probably be desirable that proposals which the Government are prepared to make on the subject of secondary education should be as long as possible before the country, and that they should receive full consideration, and be discussed by those who are interested in the question. I hope, therefore, in the course of the present Session, either in this or the other House, that we shall be able to lay before Parliament in the shape of a Bill the main proposals which were contained in the Bill of last year, so far as they related to secondary education, with some amendments and additions, in order that the general views of the Government may be once more placed before the country, and that the country may be in a position to consider them during the vacation.

This, we repeat, is a reasonable and convenient way of proceeding with the subject. It is immeasurably better than another nine months of suspense.

Cambridge in Reaction.

When we recently drew attention to the financial need of Cambridge, and spoke hopefully of the re-endowment of the University of Milton and Newton, we had little idea of the bathos into which that University was about to fall. The denial of any kind of recognition to women students, and the evident desire to get rid of them in the lecture and examination rooms—for that is the real significance of the vote—compels one to doubt whether, after all, any further endowment of Cambridge would tend to the advancement of liberal education. We should not put this as a matter of doubt if the exclusion of women were deliberate, complete, and final. In that case we should be perfectly clear that Cambridge preferred to live in an atmosphere of prejudice and reaction, and to turn her back on every liberal extension not forced upon her by Act of Parliament. But, fortunately for such of us as are Cambridge men, and happily for the country, there were six hundred and sixty-two Masters of Arts who supported the grace to confer on qualified women the title of a degree, and there is warrant for saying that this minority included a large proportion of men who are in closest touch with education, in warmest sympathy with mental development, and in greatest harmony with the ideas on which a University should be based. The majority of the majority, it is well known, were Masters of Arts who had long ceased to have any intimate connexion with Cambridge or with education, and we probably do them no injustice by concluding that their vote was less deliberate than emotional and sentimental. There were, no doubt, many opponents of the grace who did not appreciate the colour and picturesqueness of the undergraduates in their not altogether pertinent and chivalrous demonstrations. But, on the other hand, the eggs, the bags of flour, and the suspended dolls must have interpreted the sentiment of graduates as well as undergraduates; and, on the whole, their effect is to make one appeal from the University of to-day to a quieter and more sober-minded Cambridge in a not very distant future. For, of course, it is impossible to acquiesce in the verdict of May 21.

We can understand the position of a man who says that women ought not to be specially or highly educated. But this is not the contention of Universities which admit women students to lectures, examinations, and class lists. It is not the contention of rational men, even after the reactionary vote of May 21. The *Times*, for instance, which on May 22 "sincerely congratulated the University" on its reaction, proceeded to disclaim the only contention which could have made the reaction logical:—

It is no question as to whether the higher education of women is in itself a desirable thing or not; that question has long ago been decided in the affirmative. The opponents and supporters of the present scheme are alike desirous that the most perfect education possible should be placed within the reach of women.

Then what is the argument of those whom we are to look upon as advocates, not merely of the higher education of women, but of the-most-perfect-education-possible of women? Let us take them seriously—let us pursue an earnest study and an advanced research into the recesses of their minds for the reasons (we forbear to seek the motives) of their extrusion of women from Oxford and Cambridge. We quote again from the same leading article:—

The needs of women in the matter of education are not the needs of men, and the training suited to give perfect development to their moral and intellectual powers is radically different. Neither in the interest of women nor in that of men was it to be tolerated that an ancient University, with a long and distinguished record of service to English learning, should be WRECKED by an attempt to adapt it to the fulfilment of functions essentially inconsistent.

Cambridge University would be wrecked, not by allowing Girton and Newnham to prosper, not by admitting women to lectures and degree examinations (which the Senate did in 1881 by a vote of nearly thirteen to one), not by actually placing women's names in the Tripos lists in order of merit, but by allowing them to use titles of degrees without University membership, after they have done everything to earn a full degree. Are we to suppose that this is the argument?

And the remedy so lightly offered is to be a women's University. The "most perfect education possible," then, according

to Oxford and Cambridge men, is not to be had at Oxford or Cambridge, but at some hotbed for the development of female morality and female intellect, where some female or epicene professor may impart a feminine arithmetic, a muliebre logic, a dryad botany, a naiad hydrostatics, a nymphic astronomy. Whither is this doctrine of a "radical difference" between the male and female understanding to lead us? The axioms of geometry, the first principles of science, the grammatical concords, the plain rendering of a dialogue of Plato—at what point of their enunciation or illustration are they to deviate from the straight line of the masculine intellect in order to thread the mazes of a woman's brain? We speak, like Paul, as a fool; but we have to accommodate ourselves to the nature of the arguments by which the vote has been defended.

Our Cambridge correspondent, whose bias is perhaps against, and not in favour of, the recommendations of the Syndicate, describes the "merry scene" of the polling-day in terms which plainly indicate—what is manifest on many other grounds—that the overwhelming majority was largely due to the ferment amongst the undergraduates. The lamentable secession of Dr. Ryle and his friends was caused, on their own showing, by the discovery that they were on the losing side—an extraordinary reason to give for changing sides in the midst of a battle. The Colleges were positively terrorized by a threat that an indefinite number of young men would migrate to Oxford, and dislocate their finances—another extraordinary reason for tergiversation on a question of principle. An eye-witness of the sorry spectacle outside the Senate House on May 21 informs us that "The condition of the great concourse in the quadrangle was pitiable. The grass was covered with firework paper, and scores of eminent men were white with flour from the hundreds of bags which flew over the railings. . . . The confetti and the fireworks were eked out by showers of red and blue flour, and now and again an egg was lightly tossed over. Really it was very funny to see some hundreds of distinguished men pent up in such a plight."

We confess that these saturnalia do not strike us as in any sense amusing. If it be true that "the undergraduate has at last realized the strength of his position," and that his eggs and his flour-bags are henceforth to be the *ultima ratio* in discussions of University policy, then Cambridge has indeed fallen upon evil days.

NOTES.

We have received from the Education Department a copy of a circular which Sir George Kekewich is sending to all secondary schools in the country. He asks for information as to number of pupils and of staff, and particulars as to the government of the school, *i.e.*, whether worked for private profit, or under schemes of the Charity Commission, or otherwise. The Departmental Return based on the information to be given will be most valuable. It has been difficult to know precisely where we stand in the matter of secondary education. Much talk on the subject has been necessarily vague because we do not know how many children are getting a secondary education, or what number of schools are supplying it, or what their distribution is. The Duke of Devonshire has practically promised a Bill for next year, and before any legislation can be satisfactorily carried out we must have sufficient data. Some kind of organization must come, and every school must by this time be convinced of the necessity of taking its due place within such organization. It is one of the most hopeful signs we have had that the Department should be undertaking this inquiry.

We are glad to see in the revised "Directory of the Science and Art Department for 1897–8" that more stress is laid on literary instruction. The Department itself and the Technical Education Committees of County Councils are empowered to contribute to such instruction, and the University Extension lectures are, under certain conditions, recognised for support from public money. One rather mystic section, referring to localities possessing an organization for the promotion of secondary education, has created considerable talk. Sir John Gorst explains that the paragraph means nothing in particular. It is certainly vague, though it may have reference to local authorities to be constituted under a new Bill, the clauses of which, if it be already drafted, are, of course, known to the Vice-President.

It is becoming abundantly clear, the more the subject of the training of teachers is discussed, that the opposition to such training grows weaker and weaker. In the nature of the case it must be so. No man will deliberately hold a brief in favour of ignorance. Let it be once shown by the advocates of training that the knowledge to be given is just what the schoolmaster wants, and the battle is won. It should not be difficult to prove the point. Teaching is an art, and the principles of the art can be taught; teaching is also a science, and the principles underlying the science can also be taught. It is for our philosophers, educational theorists, and physiologists to collect data, work out their theories, and present them to the public in a form that may be readily grasped. At present a great deal of what may be called the science of teaching is in an experimental state. But much good work is being done, and before long it will, we are sure, be possible to convince the sceptic, and to prove that practice based on theory is the only reasonable solution of the problem.

Most of the opposition that has been shown to the claims of training is probably based on a quite erroneous idea. Many a headmaster who asserts his disbelief in the value of training will at the same time be doing his best to train the younger members of his staff. Such a man may say: "Your trained teacher will be narrow and pedantic; as likely as not he will be a conceited prig; in any case his methods will be mechanical and wanting in real vitality." This feeling is really at the bottom of the whole opposition. The trained teacher is thought to be a kind of drill-sergeant. The stimulating variety of University life is to be exchanged for the narrow outlook of the isolated training college. Of course, the mere statement of these objections is, in the eyes of those who know, their sufficient refutation. Advocates of training wish to add to the general education a man has received at the University some special knowledge of the profession he intends to adopt.

Training consists of two parts. There is, first, the special knowledge to be gained of the subjects the master will be called upon to teach. Secondly, there is professional training. It is the latter which needs to be more clearly defined in order that its benefits may be more generally understood. To this end, Dr. Bell's lecture at Oxford has materially contributed. The Headmaster of Marlborough has shown himself as stanch a friend to training as Dr. James is an opponent, and the public blessing which he has given to existing training schemes will stand them in good stead. In London the Joint Training Committee is continuing its sittings, and, without betraying the confidence of the committee-room, we may mention generally the outcome of the last meeting. As the Committee desired to get at the root of the feeling of opposition said to exist among certain sorts of schools, three gentlemen were invited to come and give their views. Speaking quite generally, the opposition to training as expressed at this meeting was as follows: (1) Any additional compulsory study after graduation might result in the loss to the profession of many of its best teachers. In answer to this, it may be sufficient to state that no compulsory training seems to be possible. For instance, the composition master at a classical school is most efficient when he comes direct from his University studies. (2) Training destroys originality. This is a serious objection, and can only be met by the existence of trained teachers who have not lost their originality. But, after all, this view touches few of us. How often is the original teacher to be found? Most men must follow in some one's tracks. (3) The hardship resulting to pupils in a training school. In answer to this, we may fairly ask if there will be more suffering than at present. Every new teacher has to buy his experience at the cost of at least a term's work to his class. It was freely admitted that some sort of experience and some sort of book-learning were to be desired.

Lord Herschell took the highest line of argument in his speech on Presentation Day at the University of London. Universities, as he justly said, are not worthy of their name unless they inspire a love of knowledge for its own sake; and that they cannot do by the mere granting of degrees on examination. We trust that the Chancellor was not too sanguine in declaring that the discussions of the last two years had removed many misconceptions between those who held widely different opinions, and that interchange of views had led to approximation. He was inclined to think that the questions at issue might be solved by an independent body better than by mutual concessions on the part of opposing parties. The danger of compromise is that each side may concede something which ought not to be conceded—a danger which an independent body might avoid. The main objection urged against change is that it may tend to lower the quality of degrees. Lord Herschell said that, if that were likely to be the result, he should be the enemy of change; but he did not believe it passed the wit of man to devise means whereby the University should become a teaching body and yet both maintain its present high standard and safeguard the interests of external students. At the same time, the external students and their friends will not be acting in their own interests if they force Parliament and the country to make a choice between their views and the views of the Senate and the Colleges.

SUMMARY.

THE MONTH.

We are glad to learn that the Education Department are taking steps to ascertain the number of pupils now receiving secondary education in England, in endowed, proprietary, and private schools. It is not proposed to include in the return any pupils who are only receiving instruction in occasional classes or evening schools; and technical institutes (except in so far as they have secondary day schools) and University Colleges will fall outside the scope of the inquiry. Monmouthshire will be excluded, as that county is under the Welsh Intermediate Education Act. In preparing the list of addresses of schools understood to be giving secondary education, the Department have received valuable aid from various sources, and have made use of all available information; but it is possible that the list may still be in some cases incomplete. It is hoped, therefore, that the principal teacher of any endowed, proprietary, or private secondary school, who does not receive one of the forms of inquiry, will apply to the Secretary of the Education Department, Whitehall, London, S.W., who will cause the papers to be sent to the address given. The names of individual schools will not be published in the return. It may be added that this is the first attempt to compute the total number of pupils receiving secondary education in England. Of course an absolutely complete list is beyond the limits of the possible; but much may be hoped from the very able and zealous officials of the Department who have the matter in hand. Replies are invited before June 12.

The titular degree received its quietus at Cambridge on May 21, the first grace being rejected by a vote of 1713 against 662. Voting began at the Senate House at one o'clock in the afternoon, and lasted until three o'clock. The vote was taken on a grace, recommended by nine out of the fourteen members of the Syndicate appointed to consider the matter, providing that women passing a final tripos examination, and having the additional qualification of nine terms' residence, should receive the title of the degree of Bachelor of Arts, but without membership of the University. The other graces were withdrawn.

On May 20 the Necessitous Board Schools Bill was read a third time in the House of Commons, without a division, though not without protest. Several country members complained of not getting help for their poor Board Schools, which, it was said, could not be managed "without making the Bill so wide as to include very large cities like London itself, and imposing on the public funds sums to which no Chancellor of the Exchequer could agree." Sir John Gorst holds that the small rural School Boards should be put an end to, and that the authority for education must be "an authority exercising jurisdiction over a wider area, and able to organize and co-ordinate education in a proper manner."

The Departmental Science and Art Committee appointed "to inquire into the mode in which the grants to Science and Art Schools are distributed, and to report whether any alteration should be made therein," has published its Report as a blue book, in which is also included a revised edition of the "Science and Art Directory," embodying the recommendations of the Committee. Some of the important changes advocated are as follows:—"In counties and county boroughs in England possessing an organization for the promotion of secondary education, the authority so constituted may notify its willingness to be responsible for the Science and Art instruction within its area." This recognition of local authorities as those who should be responsible for secondary instruction will, the Committee thinks, simplify the work of central administration, secure greater efficiency in the schools, and be a protection against undue competition and multiplication. To encourage the study of languages and literary and economic subjects, and to meet the objection that the Science and Art grants tend to promote a one-sided education, it is proposed that any *bona fide* student attending an evening Science or Art class shall be able to earn a grant by attendance at University Extension courses of lectures. It is expected that the grants made on this account will only absorb an infinitesmal proportion of the total grants disbursed by the Department of Science and Art. Hitherto certain restrictions as to income have existed which precluded some students from earning grants or winning scholar-

ships. These are to be abolished. It is also suggested that the honours examination shall be divided into two parts, one more advanced than the other.

Mr. Balfour has stated that the Government hope to re-introduce the London University Bill in the House of Lords. The following remarks are quoted (for adoption) from the *Speaker*:—

The Senate are, individually, the persons who would be the most severely touched by a measure which would terminate their rule, and, as a body, they would naturally be the most conservative of a system which they have received, used, and in part created. They are the body solely in charge of the administration of the University, and therefore speak with the greatest weight of responsibility. They must, for the same reason, be the persons best acquainted with its merits, its defects, its difficulties, and its dangers, and the most anxious to preserve all that is good and useful in the present system. And, what is perhaps even more to the purpose, they are the centre round which the storm has raged; they have been compelled during the whole contest to consider the various and conflicting aims and pretensions, and to estimate by practical experience what is likely to be effected by agreements. The Senate then, by an almost unanimous vote, accepted in general terms the recommendation of the Cowper Commission, and, in face of the new proposals, have reaffirmed their opinion by an overwhelming majority, and have joined with the other bodies in urging the Government to take immediate steps for the constitution of a Statutory Commission. It would be absurd to suppose that a Government with a majority of a hundred and fifty cannot do what they have already admitted ought to be done. It is difficult to think that they will not, unless influences are at work to which they cannot yield without discredit.

A royal charter, dated May 11, has been granted for the establishment in Sheffield of a University College. The council of Firth College, the executive committee of the Sheffield Technical School, and the council of the Sheffield School of Medicine petitioned that those institutions should be consolidated and included in one college, having for its object the provision of such an education as might enable residents in the city and neighbourhood to qualify for degrees at any of the Universities in the United Kingdom. It was represented that the endowments of the institutions were of the aggregate value of £100,000, and that there was reason to anticipate further contributions to a large amount after the incorporation of the College. The charter now granted sets forth, amongst other things, that the institutions shall be known as "The University College of Sheffield," and that women may participate in the benefits, emoluments, and government of the College to such an extent and in such a manner as the statutes of the College shall prescribe. There is to be no religious test for students, teachers, or other officers. The first president is the Duke of Norfolk, who is to hold office for five years, and be eligible for re-election. Every future president is to be elected by the court of governors. The first vice-presidents are Sir F. T. Mappin, Sir Henry Stephenson, Dr. H. C. Sorby, and Dr. Dyson. Their term of office is five years, and they may be re-elected by the court of governors. The trustees of the three charities are to be life governors of the College, and it is provided that the *ex officio* governors shall include the Principal of the College, the head of the technical department, the Dean of the medical department, and the Mayors of Sheffield, Barnsley, Chesterfield, Doncaster, Retford, and Rotherham. This is the first step towards the affiliation of the College to Victoria University.

The Central Welsh Board has elected the following gentlemen chief examiners in connexion with the annual examination of Welsh intermediate schools in July next:—Professor J. Mortimer Angus, M.A. Cambridge, first-class classical tripos and late Scholar of Clare College, Cambridge, Professor of Latin in the University College of Wales, Aberystwyth, member of the Carmarthenshire County Governing Body, and lately examiner of intermediate schools in the counties of Merioneth, Montgomery, and Carmarthen; Professor W. M. Dixon, Litt.D., M.A., LL.B., late examiner in English to the Board of Intermediate Education in Ireland, and now Professor of English Language and Literature in Mason's College, Birmingham; Mr. D. E. Jones, B.Sc. London, district inspector under the Department of Science and Art, late Professor of Physics in the University College of Wales, Aberystwyth, and Director of Technical Education to the Staffordshire County Council; Mr. R. Lachlan, Sc.D., late Fellow of Trinity College, Cambridge, third wrangler, 1883, who has acted since 1889 as examiner for the Cambridge Junior Locals and for the Oxford and Cambridge Schools Examination Board, one of the examiners in mathematics for the Welsh University Matriculation Examination, 1895–6; Professor Thomas Powell, M.A., Oxon., Professor of Celtic in the University College of South Wales and Monmouthshire, late examiner under the Oxford and Cambridge Schools Examination Board; Professor Frederick Spencer, M.A. Cambridge, Ph.D. Leipzig, formerly examiner for the Cambridge University mediæval and modern language tripos, and for the Oxford and Cambridge Schools Examination Board, Professor of Modern Languages at the University College of North Wales, Bangor.

University Extension committees will now be competent to receive "payment on results." This payment, as recommended by the Committee of the Science and Art Department, is to depend on the efficiency of the students as tested by the weekly exercises, final examination, and inspection, and will be from 3d. to 4d. in the case of a sessional course, and from 6d. to 8d. per attendance for a terminal course, for each hour's instruction. But the hour's lecture must be supplemented by class instruction, and the payments are limited to those who are concurrently attending at least one of the Department's science classes. By "sessional course" the committee presumably mean a term of twelve weeks, and a "terminal course" may be taken to represent a "session" of twenty-four or thirty weeks. It appears, therefore, that for each student making the full number of attendances possible, and fulfilling the conditions, a maximum grant of 4s. for the term, or 8s. for the session, is available.

A largely-attended meeting, called at the invitation of the Delegates of Local Examinations, was held in the Examination Schools at Oxford on May 15, when the Rev. G. C. Bell, Master of Marlborough, delivered an address on the "Training of Teachers in Secondary Schools." The Vice-Chancellor (Dr. Magrath) presided, and among those present were the Bishop of Hereford, several heads of houses and headmasters of public schools, and the chairman of the Birmingham School Board. Mr. Bell, in the course of his address, said it was a question whether it was possible to devise a scheme of training which would combine with a course of practice the theoretical elements, and would also satisfy other conditions of the problem. Those other conditions were: (1) public and other secondary schools must be persuaded to co-operate by consenting to receive probationers or apprentices, on the plan already suggested by the Delegates, or on better plans if they could be suggested, and also by assigning a definite weight to the diploma of the Delegates in choosing among candidates for masterships; (2) some substantial part of the period of probation or apprenticeship must be spent at a training centre in a course of combined theory and practice; (3) the probationers must receive some payment for their services, which, nevertheless, must be so contrived as not of necessity to impose on schools such additional burden as would disincline them to support the scheme.

The affiliation of the University of Madras to the Cambridge University has been under consideration for something like three years, and has just been decided upon. Five Indian universities have now been affiliated to Cambridge—namely, the Universities of Calcutta, Bombay, Madras, Allahabad, and the Punjab. Universities in other portions of the empire which have been affiliated are those of Adelaide, Toronto, the Cape of Good Hope, and New Zealand.

The *Athenæum* states that a conference has been arranged between the Scottish Parliamentary representatives and a deputation from the St. Andrews Senate, in connexion with the anomalous state of things in the St. Andrews University Court, a bare majority of which consider themselves bound to follow a course which has been declared by the Universities Commissioners to be illegal.

Sir Edmund and Lady Monson, accompanied by M. Rambaud, Minister of Public Instruction, inaugurated on May 20 a society named "The Guild," founded by Miss Williams, a professor of English in French public schools. The object of the Guild is to enable English girls in France to learn the language and teach English to girls in France whose means will not allow them to go to England for instruction.

On May 22 the annual gathering of members and friends of the

Cambridge Training College for Women Teachers was attended by about three hundred persons. Lessons were given on "Geometry: Riders on Euclid, Book III." by Mrs. Bryant, D.Sc., Headmistress of the North London Collegiate School, and Miss Macrae, B.A., Headmistress-elect of the Mansfield Grammar School; on "Elementary Physiology: The Eye," by Miss A. B. Bramwell, B.Sc., resident Lecturer, Cambridge Training College; on "Geography," by H. Yule Oldham, M.A., F.R.G.S., Lecturer in Geography in the University of Cambridge; on "The need for Scientific Teaching in Schools," by Professor H. E. Armstrong, D.Sc., City and Guilds Institute; on "History: The Struggle against Napoleon," by Miss Burstall, B.A., Mathematical Tripos, second mistress at the North London Collegiate School: and on "German," by Miss M. S. Young, B.A., resident Lecturer, Cambridge Training College. In the afternoon Mr. F. W. Sanderson, M.A., Headmaster of Oundle School, lectured on "The Teaching of Physical Science in Schools." There was an exhibit of work by old students, as well as a variety of social functions.

UNIVERSITIES.

(*From our Correspondents.*)

Oxford. The chief event of the term, the visit of the Prince Wales, concerns the city and county rather than the University, and has been fully reported in the London papers. A little too much fuss has, perhaps, been made over the conflicts of the undergraduates and the police. The undergraduate has been a good deal before the world of late, but we think, in Oxford, that it shows at least more courage to pull a mounted policeman off his horse than to throw rotten eggs at M.A.'s, and to shout outside a women's college. It is reported that one of the Cambridge eggs hit a distinguished member of both Universities, who thinks the softening influence of women injurious to the masculine character of our ancient Universities. The news has caused deep sorrow to his lady friends.

The Professor of Fine Art, Mr. Wooldridge, has been giving, during this term and last, a very interesting course of lectures on the Padua School of Painting and its influence upon other schools. They have been attended by a good many members of the University, as well as by ladies, and are illustrated by lantern slides showing the development in the work of several early artists, whose paintings are not, as a rule, well known to the public.

An address was given in the Schools on May 15, by Mr. Bell, Headmaster of Marlborough, on the Training of Teachers for Secondary Schools. The meeting was attended by a number of experts, both men and women, and short speeches were made by the Bishop of Hereford and the Headmasters of Winchester and Haileybury. It was satisfactory to notice that special stress was laid on the importance of training for young men. Women are eligible under certain conditions for the diploma, and the Delegates have recently appointed Miss A. G. Cooper, late Headmistress of the Edgbaston High School, to superintend the work of women students in Oxford, and to consult with Mr. Keatinge, the Director of Studies. But it is rightly felt that the scheme should primarily be developed on lines suited to University men, and that the University woman should, according to the sensible arrangement pursued in Oxford, attend lectures with the men, but have separate arrangements made for private tuition. Mr. Keatinge is in residence, and is organizing the work for the vacation and next term. There will be practical work in one or more of the Oxford schools, arranged, it is understood, on a somewhat different system from that ordinarily adopted.

Oxford has lost three well-known residents in the last fortnight—Dr. Stone, the Radcliffe Observer; Dr. Wilson, formerly Headmaster of Radley, Warden of Keble College; and Mr. Thomas, Vice-President of Jesus College. Dr. Wilson's funeral was a striking sight, the long procession of graduates, undergraduates, and college servants passing along the outskirts of the Parks, now in the full beauty of their fresh green and flowering trees, under a sky more brilliant than is common in Oxford. Dr. Stone was an honorary Fellow of Queens' College, Cambridge, and had enjoyed an honourable and eminent career in his own department of science. Mr. Thomas, a man of varied attainments, was widely known and respected throughout the University; and no one was more esteemed than the Warden of Keble, who had during all his life been prominent in the world of education. He made his name as a preacher and organizer.

The advocates of the opening of degrees to women are naturally in full sympathy with their Cambridge friends, who have been fighting the cause of justice and common sense. It is difficult to take seriously the fear that the conferring of certain titles on women students who have taken Triposes could lead to the depopulation of Cambridge, or to understand how the panic can have spread. The defeat was taken very calmly at Oxford, and by no means accepted as final; but, no doubt, there is a good deal of work to be done before either University will allow itself to be converted and to look quietly at the problem before it. The final solution will be that arrived at in Scotland, if only the women are patient and firm.

The vacancy in the Registrarship of the University will, before term is over, lead to a political contest of an interesting description. The elections are conducted in the same manner as for members of Parliament. The Rev. T. H. Grose, one of the senior Fellows of Queen's College, and a well-known advocate for the granting of degrees to women, is to be the Liberal candidate, while the Conservatives have been considering the claims of two gentlemen, either of whom would make a strong candidate. They are Mr. C. N. Jackson, bursar and tutor of Hertford College, and the Rev. Andrew Clark, rector of Leigh Magna, Essex, and formerly Fellow of Lincoln College. Mr. Jackson has for more than thirty years taken an active interest in all branches of athletics, and has been treasurer of the University Athletic Club. Mr. Clark is well known as the editor of "Oxford and her Colleges," and of many volumes published by the Oxford Historical Society.

At Somerville College the following have been elected from 36 competitors:—To the Clothworkers' Scholarship of £50 a year—Miss Frances West, Sutton High School (History); to the Mary Conybeare Scholarship of £50 a year—Miss Alice Blundell, Dulwich High School (Classics); to the student's scholarship of £40 a year—Miss A. Wynne-Wilson, private tuition (History); to Pfeiffer Exhibition — Miss Violet Hughes, Winchester High School (Classics); to exhibitions—Miss Constance Parker, Winchester High School (Classics), and Miss Mabel Harrington, Winchester High School (Literature). Highly commended—Miss Norah Maguinness, Bradford Grammar School; Miss Eunice Moore, private study; Miss Jeanie Strange, Edgbaston Church School; Miss Helen Morris Smith, Worcester High School, and Grove School, Highgate.

Cambridge. Judging by the correspondence in the London newspapers, one would have imagined that Cambridge had been in a very considerable state of ferment for the last few weeks preceding the Congregation of May 21. The actual facts were otherwise; nearly every resident had made up his mind as to how his vote would be given, and had it not been for the sudden and final change of attitude on the part of four leading men, the great women's question would have been considered a matter beyond argument. The actual day of voting, however, was productive of most unusual excitement; electioneering placards of a somewhat humorous nature were freely displayed by those not in sympathy with the Syndicate. The undergraduates having declared their opinion pretty decidedly, it would have been absolutely unsafe for any feeling on the other side to have been manifested.

The approaches to the Senate House were fairly crowded by one o'clock, when the voting began, and by two o'clock the crush was tremendous; the enthusiasm, however, was all on one side—that of the opponents of the grace. In the first ten minutes it was perfectly clear which way the voting was going, and, at an early stage, the numbers were about seven hundred *non-placets* to two hundred and fifty *placets*, a proportion which was maintained to the end. the final result being proclaimed at a few minutes past three by Mr. Blenkin, the Senior Proctor, as—*non-placets*, 1,713; *placets*, 662. During the last hour the proceedings had been growing rather lively; large supplies of fireworks had been obtained, which, together with bags of *confetti* and flour, were used for mimic warfare between the crowd outside the railings of the Senate House Yard and the members of the Senate inside the enclosure. The utmost good temper prevailed, and the seniors were well able to take care of themselves, and made excellent practice in the return of the flour-bags which had not burst when thrown inside the rails, and with the squibs and crackers which were picked up before bursting. The whole affair was the merriest scene Cambridge has provided for many a year. The police behaved with the utmost good temper and tact, so that everything passed off in the pleasantest way—except for those who were disappointed. The actual voting was almost

exactly on the lines that had been expected; what would probably have been a majority of 7 to 4 became one of 5 to 2 on account of the action of the four secessionists, and the undoubted effect of the undergraduate vote, which was taken as showing what the effect would have been on our numbers for the future had the grace been carried.

It is at length beginning to become evident to the majority of the residents, as was seen by a few many years ago, that as long as the University is dependent for its existence upon undergraduates' fees, it cannot afford to dispense with undergraduates. To certain colleges, which give shelter to the poll man, of higher or lower mental status, such as Trinity Hall and Jesus, the undergraduate question becomes a really important one. In fact, there is a large floating class who may possibly be attracted to one or other of the great Universities, and the smallest point may influence that choice; again, when the choice is made small things may influence the selection of a college. A high place on the river is a convertible term with college prosperity in the case of most of the medium-sized colleges which have no great endowments or resources to attract scholars and reading men. The above considerations probably account for a large number of the votes on the *non placet* side, and the undergraduate has at last realized the strength of his position. He has been described as "individually a fool and collectively a fiend"; but, after all, he is very human.

The Moral Science Board has been suggesting fresh changes in the regulations for the Moral Science Tripos. So far as can be deduced from the somewhat involved phraseology of the Report the Board is of opinion that "the course of study for Part I. of the Moral Science Tripos is too limited and incomplete." A separate paper on Ethics is to be introduced. The subjects of the examination will in future be as follows — Metaphysical and Moral Philosophy, two papers; General History of Modern Philosophy, Advanced Psychology, and Psychophysics, Advanced Logic and Methodology, History of Modern Philosophy (special subject), each one paper.

In consequence of a recent grace of the Senate, the gentlemen who for several years have been engaged in teaching the selected candidates for the Indian Civil Service have been appointed University teachers in their respective subjects. This is only a fitting recognition of high-class but ill paid work, and the University is to be congratulated on being able to avail itself of the services of so many distinguished men at what is practically a mere complimentary appointment. The teachers recognised are as follows:—Indian Law, Sir R. West; Hindustani, Mr. G. P. Moriarty; Hindustani, Col. W. W. Sherlock; Bengali, Mr. R. M. Towers, M.A.; Marathi, Mr. A. H. Frost, M.A.; Burmese, Mr. D. Aldridge; Tamil, Mr. J. L. Wyatt; Sanskrit, Mr. R. A. Neil; Persian, Mr. E. G. Browne, M.A.

Dr. Mann, the organist of King's College, has been selected as University Organist in the place of the late Dr. Garrett.

Scholarships and prizes have been awarded as follows:— Tyrwhitt's Hebrew Scholarships: First, no award; Second, W. H. Brooks, B.A. Caius. Mason Prize for Biblical Hebrew: F. Lillingston, B.A. Pembroke. Stewart of Rannoch Scholarships for Sacred Music: F. G. Dyer, Corpus; (open) H. E. Pigott. For Hebrew: R. C. Thompson, Caius; T. H. Hennessy, St. John's. Bell Scholarships: H. C. O. Lanchester, Pembroke; B. L. A. O'Malley, Trinity.

London. The appointments to the vacancies in the staff of Examiners were made too late to be announced in our last number. They are as follows:—In *English*, Professor Hales, M.A., of King's College, who has previously served for two periods of five years; *German*, E. Milner Barry, Esq., M.A. Cambridge, and Examiner in German in his University, formerly Professor of German in Bedford College, London (this is the first time an Englishman has been made Examiner in this subject); *Scripture*, J. F. Stenning, Esq., M.A. Oxford, and Examiner in that University; *Political Economy*, Professor Bastable, M.A., of Dublin, who has previously served for one period; *Mathematics*, Dr. Larmor, F.R.S., who was already acting provisionally; *Experimental Physics*, Professor Fitzgerald, M.A., F.R.S., of Dublin, who has previously served, and Professor Silvanus Thompson, D.Sc. Lond., F.R.S.; *Chemistry*, Professor Ramsay, Ph.D., F.R.S., of University College; *Zoology, &c.*, Dr. W. B. Benham, M.A., Lecturer at Bedford College and Examiner in Final Honours School at Oxford; *Geology, &c.*, Professor Lapworth, LL.D., F.R.S., who was already acting provisionally; *Equity*, T. Cyprian Williams, Esq.; *Common Law*, Hugh Fraser, Esq., M.A., LL.D.; *Constitutional History*, S. H. Leonard, Esq., M.A., B.C.L., Examiner in the Oxford Honours School and to the Council of Legal Education; *Medicine*, Dr. Frederick Taylor, Physician to Guy's Hospital, who formerly examined in Materia Medica; *Forensic Medicine*, Dr. Mann, who recently examined in the same subject for five years; and *State Medicine*, Dr. Newsholme, Officer of Health for Brighton.

The May meeting of Convocation was held on the evening of Tuesday the 12th. There was but little business provided for by the agenda, and less was done. A "Standing Committee" was elected in lieu of the old "Annual Committee," and a proposal to add Astronomy to the sciences included in the Matriculation curriculum was rejected. In quiet years it was generally difficult to get together an amount of business sufficient to attract a good house for each of the *two* meetings which, up to last year, used to be regularly held; and there was ample provision in the standing orders for convening additional meetings on emergencies; yet, by some new orders of 1896, a *third* regular meeting was established, with the probable result that there will be next to nothing to do at each of the three.

The Presentation ceremony came off as usual on the day after Convocation meeting. The "passees" of the year, with their distinctions and prizes, have been duly mentioned month by month in this journal; and as degrees, &c., are conferred by vote of the Senate as soon as possible after the several examinations, the ceremony is purely formal, and as a rule more than half of the graduates of the year are absent. The assembly, however, has the pleasure of listening to speeches by the Chairman (always either the Chancellor or the Vice-Chancellor) and the member for the University; and the speeches occasionally communicate matters of interest. At the present meeting the Chancellor, Lord Herschell, presided, and the leading passage of his speech related to the importance of pressing forward the requisite measures for the establishment of a Teaching University. The Senate passed a resolution in this sense in February, and similar resolutions have been passed by various colleges and hospitals. These influential expressions of opinion have no doubt reached the Lord President of the Council.

Graduates will have noticed with regret the announcement of the recent death of Mr. Walter Rivington, M.S., who was appointed a Fellow in July last upon the nomination of Convocation. The vacancy in the Senate thus caused will have to be filled by a Crown appointment.

After long and vainly expecting a public performance of the exercises of the candidates for the D.Mus. examination held in December last, we now learn that the regulation requiring such performance was suddenly rescinded in March, and the degree was conferred on the two gentlemen (Mr. Thomas Ely and Mr. P. R. Rideout, both private students) who otherwise satisfied the examiners. Although we thus miss a pleasure, we are bound to acknowledge the fairness of relieving candidates in music from a burden from which candidates in the other faculties are entirely free. In a case within our own knowledge the cost of such a performance considerably exceeded a hundred pounds, not to mention the enormous labour of getting together and training the orchestra, chorus, and soloists.

From the posted lists it appears that in January a candidate in Jamaica passed the Intermediate Examination in Laws, and that thirteen candidates matriculated at five colonial centres, which reminds us that the Senate have been moving to restrict colonial examinations within narrower limits. One would regret to see the University becoming less liberal than aforetime; but, from what we hear, its liberality has been greatly abused. An examination, for example, has often been instituted on behalf of a single candidate, say, in Australia or India; but, when all the necessary papers have arrived, the candidate has failed to appear.

It is usual for the Calendar to be procurable at the beginning of May, but we are told that it is hardly likely to be published before July. The fact appears to be that the Senate, since the latter part of March, have been discussing and revising the changes in the curricula recommended in the reports rendered by the Boards of Studies mentioned in our December number; and it is intended that the new regulations, embodying all the approved changes, shall, as well as the existing regulations, be embodied in the Calendar for 1897–98. But when the Senate have finished their revision the Charter requires that the new regulations shall be submitted to one of Her Majesty's "Principal Secretaries of State" for his approval. Such Principal Secretary has always hitherto been the Home Secretary for the time being.

APPOINTMENTS, &c.

Dr. Josiah Royce, Professor of History and Philosophy in Harvard University, has been appointed Gifford Lecturer on Natural Theology at Aberdeen for the sessions 1898–1900, in succession to Dr. Ward.

The Savilian Professorship of Geometry being vacant by the death of the late Professor Sylvester, the electors will proceed to the appointment of a successor in the course of the present term. The total amount of the emoluments of the Professorship is £900 a year, and cannot exceed that amount. Applications, together with such papers as a candidate may desire to submit to the electors, must be sent to the Registrar of the University, Clarendon Buildings, Oxford, on or before June 12.

The Hebdomadal Council will proceed to the election of a Lecturer in the Septuagint Version of the Hebrew Scriptures, on the foundation of the Rev. Edward Grinfield, in Trinity term. Candidates for the appointment are requested to make known their wishes to the Vice-Chancellor on or before Monday, May 31. The foundation provides for a "lecture to be delivered by a person in holy orders and of the degree of Master of Arts at least, to be elected for two years."

Mr. A. St. John Gray has resigned the principalship of Malvern College; and Mr. Dunn has resigned that of Bath College.

The Durham County Council Technical Education Committee have recommended a special grant of £50 a year for two years to the Bishop Auckland Grammar School on condition that the governors undertake to appoint a well-qualified Science graduate as Headmaster, and to continue the school as an Organized Science School under the Department of Science and Art.

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The Lord President of the Council has announced in the House of Lords that a Secondary Education Bill will be introduced this session, though it will not be proceeded with before the spring of next year.

The President of the Board of Agriculture has appointed a Departmental Committee to inquire into the working of the Universities and College Estates Acts, 1858 to 1880, and to report whether any, and, if so, what, amendments therein are desirable.

The final examination for the London County Council scholarships, which was fixed for June 28, has now been appointed to begin on July 1. This postponement is due to the change of date in the Science and Art Department's examinations.

Notice is given by order of the Standing Committee of the Senate of the Royal Irish University that, in consequence of the celebration of the Diamond Jubilee of Her Majesty the Queen, no examinations will be held on June 22, and that the B.A. (Pass) Examination announced to begin on that day is postponed to Thursday, June 24. Similar difficulties have arisen in regard to more than one English examination.

The subjects for discussion at the International Congress of Technical Education, to be held at the rooms of the Society of Arts, on June 15–18, will include (*a*) Industrial Education:—(1) Advanced Instruction; Polytechnics, Universities, Colleges. (2) Secondary Instruction; Higher Technical Schools; Secondary and Intermediate Schools; Evening Schools. (*b*) Commercial Education:—(1) Advanced Instruction; Colleges; High Schools and Institutes of Commerce. (2) Secondary Instruction; Commercial Schools; High Schools; Classes for Adults. It is not proposed to deal with Elementary Industrial or Commercial Education. The education of both sexes will be included.

The Lord Mayor of London has expressed his intention of inviting members of the Congress to an evening reception at the Mansion House on June 17. The Society of Arts annual conversazione will be held on Wednesday the 16th.

The subject for the Cobden Prize (Cambridge) for 1898 is "The relative importance of the influences which tariff regulations and other causes exert upon international trade: as shown by the vicissitudes of British trade with the United States of America, especially since 1846." The prize is open to the competition of all members of the University, who, having commenced residence, were not of more than three years' standing on April 20, 1897. The essays are to be sent to the Vice-Chancellor on or before October 12, 1898.

AN AMERICAN PSYCHOLOGIST ON THE THEORY OF EDUCATION.

A recent number of the *Educational Review* (New York) contains an article, by John Dewey, Head Professor of Philosophy in the University of Chicago, which is worth attention on this side of the water. Professor Dewey's work in psychology is well known, but it is only within the last few years that he has begun to give attention to the bearings of psychology on school practice. This article is the outcome of his investigations in one special direction—the problem of the curriculum. The following analysis will indicate his line of thought:—

The common plan of distinguishing between the subject-matter or material and the method of instruction is useful, but may be misleading. It is supposed that, while the latter may be determined by psychological considerations, *i.e.*, by the nature of the child's mind, the former is to be selected from social or logical considerations apart from psychology. Such a position is indefensible; for it alleges that "there is somehow a gap or chasm between the workings of the mind and the subject-matter upon which it works." "This dualism reduces the psychological factor in education to an empty gymnastic. It makes it a mere formal training of certain distinct powers, called perception, memory, judgment, which are assumed to exist and operate by themselves, without organic reference to the subject-matter." And it further degrades method to a very low plane, confining it to an exposition of devices which have been found empirically useful.

What, then, is our aim in selecting this or that branch of study? The most important answer to this question is made by Dr. Harris in the Report of the Committee of Fifteen: he would select each branch of study as bearing upon some typical aspect of social life, or affording a tool for maintaining that life.

So far as it goes this answer is suggestive, but it is not complete, and it ignores entirely the psychological factor, *i.e.*, the way in which the study operates in the child's mind. "Geography is not only a set of facts and principles which may be classified and discussed by themselves; it is also a way in which some actual individual thinks or feels the world." To the child, simply because he is a child, geography is not, and cannot be, what it is to the one who writes the scientific treatise. *The latter has had exactly the experience which it is the problem of instruction to induce on the part of the former.* "It is not the question of *how* to teach the child geography, but, first of all, the question *what* geography is for the child. Geography, physics, &c., are not objective realities, but the results of experience. If we ignore this experience as a factor in the child's development, we are substituting the adult's consciousness for the child's consciousness. Hence the complexity of the problem of the curriculum. For we find that the education value of any branch of study depends not only on the possibility of its being grasped by the child's mind as objective fact, or of its capacity to arouse passing interest, but on its relationship to the child's special experience.

We now indicate the mode in which the problem of education values is to be approached. Firstly, we have to examine the child's stock of experiences, and these not only as intellectual interests, but as signs of taste and sentiment, as eliciting

response in the formation of habits. The Herbartian term "interest" may be taken to cover this inquiry; it corresponds to the physician's diagnosis of symptoms.

Secondly, we interpret these symptoms, these indications of interest, by prophesying what they will or may lead to in the mature adult. Here the objective logical scheme of classified sciences has its uses. The developed system of geometry is the outcome of the child's first efforts in measurement: not that we can realize this outcome by inserting our adult geometry into his consciousness through the medium of instruction. Far from it! the full-orbed science is merely a prophecy of what *may* issue, if the seed before us grows into a perfect plant.

Thirdly, then, we determine branches of instruction, in the light both of the child's experience and the adult's full conception of knowledge. And the final problem of instruction is seen to rest in the process of reconstructing the individual's experience on the lines of what is seen to be involved in that experience in its matured outgrowth.

There are two contrasted errors to be shunned. The first is that of the scholar and scientist who neglects the nature of the child's experience, so utterly different from his own: the second, that of the sympathetic friend of childhood, who appeals to the child's transitory interests as if these were the end, instead of the instrument. "It is because of the necessity of this operation, the transfiguring of the dead objective facts by seeing them as thoughts and feelings and acts of some individual, that we are justified in saying that there is a psychological aspect to the curriculum." The denial of this aspect has led to confusion in pedagogic theory; and in practice it has left the teacher either to follow historic precedent and routine, or "to substitute the abstract and the formal for the vital and the personal."

This summary of a paper which itself is written in condensed form may possibly not suggest to the reader the importance of the issue which Professor Dewey seeks to raise: he is in conflict not only with theorists who refuse to plan their teaching on any principles at all (save the old principle of follow your leader), but with those who think to create a new conventional curriculum by a balance of mental faculties. It has been widely held by theorists that the value of this or that study should be estimated by its "faculty" worth, *i.e.*, by its supposed virtue in training the reasoning, or the imagination, or the like. This doctrine has been widely taught in England, and Professor James Ward, of Cambridge, is the only man of distinction who has opposed it.

Now, however, the Herbartian doctrines are making their way, and they are especially directed to undermine both the faculty psychology and its interpreters, in the creed of education. Professor Dewey does not label himself Herbartian, but it is clear that his teaching takes the same trend. It will be interesting to watch the development of this controversy between two, if not three, hostile camps, each claiming to speak in the name of psychology.

J. J. F.

CORRESPONDENCE.

PROPOSED LABORATORY FOR EXPERIMENTAL PSYCHOLOGY IN UNIVERSITY COLLEGE.

To the Editor of the Educational Times.

SIR,—It is without doubt known to many of your readers that an effort is being made to establish a laboratory for experimental psychology in University College. It is probable that the nature of this proposal is not clearly understood, and I venture to address you on the subject.

To begin with, then, the proposed laboratory is not, as one London journal appeared to think, a place where confiding mothers may deposit their infants in order that a learned professor may ascertain by experiment whether, for example, they can discriminate what are to us offensive tastes, or, like their simian ancestors, hang with their whole weight on to a bar. Nor does it intend to follow out the rather exciting lines of investigation which busy themselves with the occult phenomena of "visions" and the like.

The laboratory modestly proposes merely to study the familiar mental processes as they can be observed in older children and adults. The novelty of its researches lies wholly in its method. The new experimental psychology no longer leaves a person to find out by introspective examination how his mind is made; it offers to show him the workings of his mind by subjecting it to the action of certain physical appliances. For example, we know in a vague way that we can distinguish tastes, tones, and so on; experimental psychology enables us to measure the discriminative power, and to assign its limits. So, again, it tells us what particular variety of idea words tend to call up, and how one individual mind differs from other minds in this respect.

In this way experimental psychology, which is carried out by the help of the appliances of the physicist and the physiologist, is making our knowledge of our minds more exact, and is doing something towards removing from psychology the reproach cast upon it by Kant—that it could never be a quantitatively exact science.

But my object in writing is to point out to teachers and others interested in education one of the chief practical gains of the new investigation. It has already directed itself to the examination of the mental processes of school children, and reached valuable results. I will touch on one point only—the measurement of mental fatigue. Every teacher knows in a vague way that the activity of a child's mind falls off with a prolonged exertion, such as is involved in the morning's class work. Experimental investigation has begun to make this knowledge precise. I doubt whether it ever suggested itself to a schoolmaster that prolonged brain work affects the pupil's ability to distinguish objects by the sense of touch. It has, however, been ascertained by Griesbach that children's ability to discriminate two points of a pair of compasses when applied to the skin has, at the end of three hours' class work, been reduced to one-third of what it was in the early morning before work began. In other words, the two points of the compasses had to be put three times as far apart in the later as in the earlier period before they could be recognized as two points. Burgerstein and others have devised tests by which the falling-off in retentive power (memory) with the oncoming of mental fatigue can be measured. Ebbinghaus has quite recently invented a method of testing constructive ability, by setting school children to fill in gaps of syllables or whole words in portions of printed matter submitted to them, and has carefully estimated the effects of quantity of previous work, and, what is still more curious, of quality of work, on this ability. Those who desire to keep languages uppermost in the school will be glad to hear that a preceding hour's work at Latin does not lower the ability as much as the same length of application to other sorts of work—even what might seem so much easier a kind as drawing.

Enough has been said, perhaps, to show that this new branch of psychology already claims the serious attention of the schoolmaster. It may be conjectured that when the methods are perfected and extended they will lead to radical changes in our notions of children's mental work, and of the conditions most favourable to it.

Even now the results of work accomplished in Germany and in the United States are of real practical value. It may reasonably be expected that teacher-students who want to be abreast of the progress of science should acquaint themselves with the now recognized methods of measuring the simpler activities of children's minds. That this idea is not quixotic may be seen in the fact that in the School of Pedagogy which has now established itself within the New York University (when will a British University develop a complete school of pedagogy?) there is a professor specially told off for "Physiological and Experimental Psychology." The psychological laboratory of this school, which was established in 1896, has for its definite aim to exercise students in the methods of measuring the senses and other powers of children, and to prepare them for carrying out future investigations of their own.

If, as I hope, the laboratory at University College will begin its work in October next, an opportunity will be offered to teachers in and near London to learn these methods.

In order that the laboratory may be started and kept going till it is self-supporting, annual subscriptions for three or four years are needed. One former student of the College, a lady, has given £70 for the purchase of apparatus. Are there no old students among the readers of your journal who would like to do a good turn at once to their college and to the cause of education?

JAMES SULLY.

University College, *May* 20, 1897.

A FRENCH HOLIDAY COURSE—AND A CHALLENGE.

To the Editor of the Educational Times.

SIR,—Kindly allow me, at the request and as representative of the Alliance Française, to ask you for space in your columns to call the attention of your readers to the courses the Professors of the Faculty of Paris will deliver to foreign students during the months of July and August. Messieurs Clément and Huguet will respectively explain the metaphors, proverbs, and idioms relating to trades, crafts, and sciences, and the phraseological construction of the writers of the sixteenth and eighteenth centuries; Professor Brunot, the comparative study of syntax. Classical and contemporary literatures will be treated by the well-known writers, Messieurs Jaquinet and Doumic, of the *Revue des Deux Mondes;* the subjects: "Flaubert and the Realistic School," and "The Last Poets of the Romantic School." Dramatic readings out of Molière's masterpieces, in which the auditors will be expected to take part, will be given by Professor Berr, of the Comédie Française. The students will visit the museums, monuments, churches, and works of art of Paris, Rouen, &c., under the charge of the artist and statuary, M. Carl, who will point out the characteristics of the classical,

romantic, and realistic schools. A special course on elocution, pronunciation, and phonetics will be delivered by Messieurs Raguet and Roussilot. The political and social institutions, as well as the military organization, of France will be treated by the well-known publicist, M. Chaillet Bert. On the evenings of the days on which the lectures take place there will meet conversation-groups, of not more than twelve members.

On the completion of the courses a board of professors will examine, orally and by written papers, candidates that desire to sit for the *diplôme élémentaire* or for the *diplôme supérieur*. About two hundred lectures, lessons, and visits are included in the full courses, the inclusive fee for which is about £6. 10s., but students may choose shorter courses. Last year 366 foreign students, 166 men and 160 women, attended the lectures of the Alliance Française, 48 of whom were awarded diplomas. The executive committee have made suitable arrangements to welcome the English women students that shall attend these lectures. As in former years, the Alliance Française will provide, *à titre gracieux*, various privileges and facilities for excursions, receptions, &c., so as to make the stay of its members in Paris as interesting as possible. A guide-book, specially prepared for intending tourists and visitors, has been published.

This scheme of the professors of the University of Paris cannot fail to enlist the sympathies and support of those who are engaged in fostering an *entente cordiale* between the two races—generous Keltic France, free liberty-loving England—who, in virtue of their historical past, are the pioneers of Western civilisation. Far too much is made of the Teutonic origin of the English people. The small pillaging and roving tribes that came over from the Jutland shores previous to the times of William the Conqueror were of very little account—when compared with the great native Keltic stock, with the vast multitude of emigrants that came over from France with the Norman, with the Angevin rulers, and subsequently with the French Protestants—in peopling Great Britain. Of the Englishmen whom we meet in daily life on the Queen's highways, one-third are Frenchmen by descent, and two-fifths of the other two-thirds have French blood running in their veins. The English sympathy that Germans claim for Germany, based upon common ethnological origin and common sentiments, does not exist. Moreover, the historical connexion of the two peoples belongs to a time long since past.

While, partially, the basis of your race and language is Teutonic, yet your civilization, your progress in both social and literary culture, have taken place under French-Latin rather than under German influence. In the general intercourse of the world, in political transactions, France and the French language traditionally play a more important part than German.

It cannot be denied—modern history shows it distinctly—that Englishmen are more drawn towards France than towards Germany. English, too, has by the concurrence of many causes—some very apparent, others of a very subtle nature, which I need not enter into—been gradually departing from whatever remained of its original character, and has been deviating for the last hundred years more and and more towards the French lucid style and easy phraseology.

PAUL BARBIER,
University College, Cardiff. *Délégué de l'Alliance Française.*

UNIVERSITY COLLEGE OF NORTH WALES, BANGOR.

To the Editor of the Educational Times.

SIR,—Will you permit me to correct a mistake which is made in the "Notes" to be found on page 215 of your May issue? It is there stated that "Both the Cardiff and the Bangor Colleges of the Welsh University have now ceased to arrange special courses in preparation for the examinations of London University." So far as this College is concerned, the only definite resolution which has been taken is to discontinue special courses in preparation for the London *Matriculation* Examination; in other respects there will be given at the College next session the same amount of preparation for London University examinations as has hitherto been provided. Your note owes its origin, I have no doubt, to the fact that in their report upon this question (adopted by the Council, and communicated to the Court of Governors at their April meeting) the Senate expressed the hope that it might "be possible to follow out the policy herein (*i.e.*, in the discontinuation of preparation for Matriculation) foreshadowed by giving up special preparation for London Intermediate Arts in 1898–9, and for London B.A. in 1899–1900." Thus, while the policy laid down at the meeting of the Court will, if adhered to, ultimately lead to the discontinuance of all special courses for London students, no such step is at present contemplated, and in their further action the College authorities will be guided by their experience of the change to be forthwith made.—Yours faithfully,

JOHN EDWARD LLOYD,
Secretary and Registrar.

University College of North Wales, Bangor, *May* 3, 1897.

[Mr. Lloyd draws a distinction with very little difference. To knock off the Matriculation Course is surely to cease to arrange future courses. No doubt we jumped to our conclusion.—EDITOR.]

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COLLEGE OF PRECEPTORS.

EVENING MEETING, MAY 19, 1897.

The Chair having been taken by H. W. Eve, Esq., M.A., H. E. MALDEN, Esq., M.A., read a paper on

RETROSPECTIVE HISTORY.

IT is perhaps better to say at once that this paper is not original in its conception, but is suggested by a very interesting article in last September's *Contemporary Review*, by Sir R. K. Wilson. If I pose rather as an adverse critic of the article it is not because I do not fully acknowledge its interest and value. But though, with some doubts and hesitation, I am forced upon the whole to disagree with some of its main suggestions, my conclusions are perhaps not very different from those of Sir R. K. Wilson. At first sight it would certainly appear that those who have to tell a coherent story, and to explain its meaning, should begin at the beginning and go on to the end. I have known people who adopt a different plan—they usually belong to the female sex, the less educated classes, or less ripe ages—who start in the middle. They undoubtedly excite curiosity, but they fail to produce understanding, until they have been brought back to a point considerably earlier than that at which they started. Some novelists use the same means of arresting attention, and then generally give us an introductory chapter or two later on, out of place.

Were it not for certain practical difficulties I should say that, without doubt, the natural order of events is the true order for their presentment. The first difficulty is that life is short and that school time is shorter. The methods, therefore, of the ancient chronicler, in beginning at the beginning, are open to serious objection. He, good man, with ample leisure and the great advantage of not knowing too much, would generally begin religiously at the beginning. "The beginning of the world comes first. Then, clothed in the form of light, God created the Angels," &c. (Ethelweard, tenth century). Or, "From Adam to the Flood were 2,042 years. From the Flood to Abraham were 942 years" (Nennius, ninth century). Herodotus begins the struggle of the Greeks and Persians with the abduction of the mythical Io by the Phœnicians, as the first recorded event in the hostility of West and East. Ranke follows the ancient custom, for after exhausting the history of the seventeenth century, he began a Universal History, to lead up to it. Historians of English affairs had a particular advantage, which relieved them sometimes of the task of recording a few thousand years, and they started with the earliest record of the island of Britain. And this practice of Baeda, Henry of Huntingdon, and Florence of Worcester, is commonly followed by school histories of England.

But, as I said, the practical disadvantage is that time fails. An increase of knowledge makes every age more full of certain events; the scope of history widens, and includes institutions, religion, and literature; and the pressure of all studies increases in the same way. School life is cut short by the necessities of gaining a living, and those who begin at the beginning of a story, well told, are lucky if they complete the first volume. Few get beyond the middle of the second, and a scanty band are able to close the third with the proud consciousness of having read it all from beginning to end. They leave the latter part, most pregnant with lessons for their own time, most interesting from its connexion with themselves, most rich in detail and minute fact, most free from real ambiguity. For we may remind ourselves that we are dealing with comparatively elementary study. Sir R. K. Wilson seems to contemplate the case of elementary schools (page 395)—"suitable for elementary teaching." We are

not dealing with the education of candidates for the Cambridge Historical Tripos or the Oxford School of History.

Modes of Learning History.

It has occurred to many people that we are working commonly in history in the wrong direction. A child on the 22nd of June will see the Queen and Ministers. A child sees a policeman in active operation. Here are evident facts. It is suggested that we ought to work back thence, and, starting from Policeman X, gradually establish how he came to be, what he does, who directs him, what law he administers, who made the law, and how, how they get the power to make the law, for operation where, how there came to be the limits within which one law can act, who made previous laws, for use in what district—and so on, gradually going back step by step, till, if the child stays at school long enough, he can be landed with Julius Cæsar in the midst of a Britain which knew few laws, and where the policeman's blue uniform was replaced by the tasteful decorations in art colours upon the skins of the inhabitants.

I merely mention, in passing, one objection, that any plan of this kind makes younger children deal with the most difficult and the most important part of history first, and, as their general capacity for understanding history increases, takes them further away into more doubtful and less important periods. At the very time when they may begin to have a glimmer of interest in the foreign news in the papers, and in the political talk of their elders, they will be dealing with the Norman Conquest, and, such is the infirmity of the human mind, may have forgotten the first freshness of their impressions about the Prime Minister and the County Council.

Apart from this, I confess that I should be puzzled if I had to construct a history on this plan. Any attempt at it seems to me to result in taking what may be called a historical text, the Crown, the law, the empire, or what not, and then giving an account of its rise and progress in very much the ordinary way, from beginning to end.

The idea that we ought to work backwards seems partly founded upon a false analogy between history and natural sciences. In the latter we may observe and collate phenomena, and then, by aid of experiment, reason back to the causes which produce them. I do not deny that you may conduct historical exercises in this way. A teacher may point out that all Oriental monarchies seem to have certain features in common, and may exercise the ingenuity of his pupils in accounting for the similarity. But that is not the way in which the fact that the common features are produced was discovered. It is all on record already. Where no records exist, where an ancient race has left remains behind it, like those of Central America or of cave men in Europe, with no writing, a careful examination of the existing remains may reveal something of the social state of the race which has left them. But this is not history. It is archæological investigation, a useful handmaid to history, but a handmaid who in such cases can only work doubtfully and imperfectly, from lack of complete historical records.

But the article which suggested our paper does not propose, I take it, a retrospective study of history in the most literal sense, a trying back from the policeman to the Minister who created the policeman, and to the machinery which created the Minister. I had better take Sir R. K. Wilson's actual words, that you may see exactly how far I agree with, and how far I venture to differ from him.

There are two crucial passages, which I will call A. and B.

A.—From the point of view here indicated, a course of instruction on present political phenomena is an absolutely indispensable preliminary to any line of historical study whatever. And, on the principle of proceeding gradually from the known to the unknown, some such arrangement as the following seems to suggest itself :—

Preliminary Course.

1. Local Government of London (or of the county in which the class is held).
2. The central Government of the United Kingdom; what goes on in the different offices about Whitehall; who is at the head of each; how they ramify through the country; and how they are connected with each other through the Cabinet and the Sovereign.
3. Responsibility of the central Government as a whole to Parliament, and ultimately to the electors. Constitution and working of Parliament.
4. Peculiarities of Scotch and Irish Government.
5. Relation of the British Government to the colonies and India.
6. The army and navy, and what they are wanted for. Foreign relations; the civilized and the uncivilized, the great and the small, Powers with which we have to deal. . . .

B.—My contention is, not that each particular story should be told backwards, but that distinct periods, or masses of events, have prior claims on our attention according to their proximity to the present time, and that in attacking each new period the first object of inquiry should be, what light it throws on the later events which we have previously studied.

Now A. is extremely useful, but it is very difficult and it is not history. I am sorry to say that I differ *toto cælo* from the idea that such a study is an absolutely indispensable preliminary to any line of political historic study whatever. I object to beginning with the most complicated of all political systems. The mere fact that it is the system under which children live does not make it a whit easier for them to understand. They can understand a despot—they know him at home sometimes—and they can understand a law, because they know it at school. But a sovereign who reigns but does not govern, a Cabinet which governs but can issue no valid order whatever as a Cabinet, two parties in the House of Commons which are equally patriotic, but each of which is perpetually checking the action of the other, two Houses of Parliament with equal powers, but one of which must give way to the other—these are things extremely hard to be explained to the young. For myself, when trying to write a book which should be useful to rather older people than Mr. Arnold Forster's book on the subject, I found it impossible to explain these things at all without a brief survey of the history of the constitution. Whether we start with the state of England now or with the state of Britain under Cassivelaunus, an elaborate description will be necessary to make either clear to children, who are as profoundly ignorant really of the one as of the other, and I confess that the more simple state of society seems to me much the easier for them to understand.

But, difficult or easy, I submit that a survey of the existing constitution is not history. It is not a study of how and why events happen. It is not history exactly, any more than geography is geology. The one is a description of things as they are, the other the story of how they came thus to be. The one is, as it were, static, the other dynamic. History gives some sort of guidance as to future possibilities of development; a review of the existing state gives none.

History is the study of mankind at large, in varying conditions and subject to different accidents. Its ends are a knowledge of political man, which is not best attained by regarding him in one political state only, and a sympathy, born of understanding, with men in different circumstances from our own. I certainly would not exclude attention to parliamentary debates, nor intercourse with a different class from our own, nor foreign travel intelligently conducted, nor first-rate fiction really illustrating human character, from the place of parts of historical study: we may know men all the better through these. But I do deliberately say that a study of Herodotus and Thucydides is more conducive to the historical frame of mind, which is as important for the study of history as an ear for harmony is for the study of music, than a study of the machinery of the House of Commons is.

The Value of Ancient History.

Ancient history, indeed, I look upon as peculiarly valuable as a vehicle for the acquisition of general historic knowledge. It sharpens the historic sense by inducing an understanding and sympathy with people very different from ourselves, and by the fact that it can be and is largely studied, by those who do study it, through the means of the original authorities. Classical scholars have often a correct historical judgment, I believe for this reason, and the leading names of the present and late Cambridge school of history, our Thirlwalls, Lightfoots, Seeleys, Protheros, and many lesser, are names which appeared first high in classical honours. To pursue this subject a little further, I demur to the statement that classical sympathies played a mischievous part in the Greek War of Independence. No doubt Canning was a classical scholar, and knew as little as most other people about the history of the Servians or Roumanians. But local and particular causes drove the Greeks and Sclaves and Albanians who live in Greece into revolt against the Turks. Our occupation of the Ionian islands, and the fact that Sir Richard Church had commanded a Greek Legion during the Napoleonic War, brought Englishmen into connexion with the movement, and the maritime position of Greece gave us a possibility of interference which we had not in Servia or Roumania.

But again I digress from the main point. Any periods of

history, skilfully treated, may be made conducive to the growth of the historical judgment and sympathy.

To come to the second passage which I quoted, which I call B. This is history. It is a review of events, causes, and effects, not a description of the *status quo*. I only venture to quarrel with this because I believe that the plan would not work. Sir R. K. Wilson gives us as an example an admirable review of the Eastern Question, taken in slices from the bottom upwards, as we cut a pine-apple. It is admirable for those who understand something about it beforehand, but I must remind you again that we, and the article, are dealing with elementary instruction. No doubt elementary must be taken in a fairly wide sense here, for no one would, I think, put even Standard VI. through the history of the Eastern Question as a course of lessons. But with ordinarily uninstructed minds I anticipate difficulties. We are called upon to consider the state of the Turkish Empire and its Christian subjects in the middle of the sixteenth century. The Eastern Christians, we are told, submit to the Turks because they prefer their rule to that of the Pope and the Inquisition. Must there not at once be an explanation of the position of the Pope, the existence of the Inquisition, and of the reasons why Greek Christians were obnoxious to either? That is, we must go back, and start downwards with explanations beginning with the eleventh, thirteenth, and eighth centuries respectively, before we can make all this clear.

In the next slice we find introduced the last Greek Emperor, as I hope we do not commonly call him, or the Roman Emperor, as he was. Must there not again be a story coming downwards from Constantine the Great, if not from Diocletian, explaining how a Roman Emperor found himself there at all? Or again, in the next, there is reference to the fourth crusade. Will that be really intelligible without going back to Urban II. and Peter the Hermit, and explaining, again downwards, what crusades were, and how they changed their character? I am very much afraid that the comparatively elementary learner would be in a sad fog before it was all done, and would have lost the sense of consecutiveness, and all idea of the order of leading events, without which a sense of consecutiveness is hopeless.

It is with great pleasure that I turn to a side of the subject where I can heartily agree with Sir R. K. Wilson. Ancient history may have its peculiar value for those who are able to pursue historical and other studies to some considerable length; any period of history may be turned to good account for the encouragement of the historic faculty; but there is no doubt that in the case of those whose knowledge of history must be partial and fragmentary, the later periods are those of most importance, and are not to be left to chance. In Great Britain, the period since the national will, speaking through an organized Parliamentary mouthpiece, attained a decided preponderance in politics, that is, since 1688; in Europe the period since religious wars gave way definitely to a struggle to maintain the balance of power, that is, since 1659; in the world the period since the control of colonies and of maritime power became a foremost object with European States, that is, since 1733, the date of the Family Compact: these periods are of most living importance as introductory to modern politics, and are sufficiently wide and varied to afford a complete training in historical sympathy and judgment.

I think that Sir R. K. Wilson and I are really at one about the main purpose of his article. Would it be incorrect to describe it, not as a suggestion that history should be taught in a way in which no sane author would write a story, but as a powerful plea for the importance of later history, to those whose historical studies are perforce limited? I would try to attain the common end somewhat differently. There are cases for which it is impossible to provide in schools. The child who is going to obtain a labour certificate after passing the fourth standard must remain imperfectly taught in history as in everything else. These, and some others, are cases where, if a child can read and write fairly well, it is all that we can hope for. Because some children are very stupid, or irregular in attendance, or withdrawn from school much too early, or try to learn too many subjects in a short time, there is no reason why all should be confused by hearing stories told after the fashion of the White Queen in "Through the Looking-Glass," who began to scream because her finger was going to be pricked presently. Some device is wanted by which the average schoolboy may be able to leave school with some knowledge of English history beyond the Tudors.

I would endeavour to provide for this, not by sacrificing the earlier steps in national development altogether, but by reducing them to their proper proportions, and by selecting the really important and lasting movements. The earliest lessons must be devoted to interesting children in the past, and to making them believe that the past really existed.

HISTORICAL STORIES ARE POTENT

to this end, and the stories may be advantageously linked to places which the children can see, such as the Tower of London, or Westminster Abbey, or Runnymede, or St. Albans. I would then have the teacher remember that English history has a beginning, without going back to the Protozoa or to cave men, or even to Julius Cæsar, in the first advent of the English race to the shores of Britain. Further, the teacher should consider that the story there beginning has two main aspects wherein it differs from the stories of other nations, and that those two aspects are still prominent now. One is the continuation and development of certain forms of constitutional life, the other is the gradual expansion of the English race, with their Scandinavian conquerors and kinsmen, into wider and wider limits, first in Europe, and secondly in the world. The constitution and the expansion of the race are the two features which I should recommend the teacher to keep in sight in the comparatively brief attention which he would give to the earlier centuries of our history. Much will go overboard which fills a large space in ordinary teaching and elementary histories—to be learnt later by those who can afford the necessary time. The Civil Wars of Stephen's reign, Thomas à Becket, Richard's crusade, will disappear. The details of the great French wars will disappear, though they may be referred to as an occasion for the growth of Parliamentary power and for an example of the presence of a redundant population not tied to the soil, who furnished armies then, as they have furnished colonists and a manufacturing population since. The details of the Wars of the Roses may go. A brief reference to disorder leading to an eclipse of the constitution will be enough. Most of the Reformation may be delegated to social and ecclesiastical history, to be studied elsewhere if there is time.

About the end of Elizabeth's reign the treatment must become rather more full. The Civil Wars, the Commonwealth, and the Restoration will require more detailed treatment, and a survey of the state of things after 1688 will lead on to the ordinary comprehensive treatment of history since then. Still, however, with exceptions. Marlborough's battles, the South Sea Bubble, the Jacobite romance of the '45, the New Style, Wilkes and Liberty, the Gordon Riots, are all profoundly unimportant, when time is an object, compared with the acquisition of America for the English race, the loss of the United States, Trafalgar and all that it implies, the failure of the Tories to govern after the war, the Reform Bill, the new Poor Law, Sir Robert Peel's administration, and the new developments of foreign affairs from the Crimean war onwards. The last period should be continued well on into recent days, and a review of the present state of the constitution and of the distribution of the race about the world, a commentary upon *Whitaker's Almanack*, might end the course of teaching.

In the case of elementary schools, perhaps the lower standards, besides being interested by stories, might be drilled in the order and dates of reigns, so as to give them a framework whereby to keep their ideas clear as to the sequence of events. The fourth standard could be in a year sufficiently taught the necessary outlines of the two great interests down to 1688. The fifth and sixth standards should deal with the last and present centuries, the seventh with the current political conditions at home and abroad. In other schools, not strictly elementary, the work of classes might be arranged in the same way. The earlier *résumé* should, I think, mention the following points:—The local self-government of the Anglo-Saxons and their want of a well organized national government; the consequent Danish conquests, infusing a new element of energy and spreading the race in the British isles beyond England. The Norman conquest, welding England together with a strong central government for the first time. The reform of the government by Henry II., and the assertion of rights on behalf of the nation by the barons. The organization of Parliament by Edward I., the growth of parliamentary power owing to the French wars, the decline of parliamentary power owing to the turbulence and vices of the people who sat in Parliament, and the almost despotic monarchy succeeding. The vindication of national freedom of action under that monarchy; the conquest of Ireland; and the beginnings of adventure and discovery in America, and of trade with India. The failure of the Stuarts to satisfy national ideas, and the consequent breakdown of monarchical power. The various experiments of

1649, 1653, 1660, in government, and the final compromise of 1688. The further colonization and maritime and colonial wars with the Spaniards and Dutch during this period.

Thenceforward the treatment should become more and more full as the time approaches the present, and as the capacity of the children increases. The foundation may appear a slight one, but I am convinced that it is a foundation, not itself resting on the air, but based upon a brief account of the leading characteristics of our ancestors, and capable of making the subsequent developments intelligible, in the hands of a competent teacher.

One difficulty remains, the examinations. My lords must modify the code, and examining bodies must be prepared to examine in the later history especially, or all arguments in favour of teaching it will be in vain.

Let the College of Preceptors begin. In place of the three orthodox "periods," chosen out of the usual four, 1066 to 1485, 1485 to 1603, 1603 to 1688, 1688 to 1815, let them set a choice of six questions, three only before 1688, for all candidates, and further questions on one of two periods, either 1688 to 1815 or 1815 to 1885. I am afraid that on the first occasion a great many candidates will be plucked in the latter.

The Chairman said the idea of elucidating past history by a study of the present was certainly fascinating, and it apparently received the support of the plan followed in the study of natural sciences, notably in that of geology, which study, as they knew, had been revolutionized by Lyell. But it must not be forgotten that it was easier to deal with the facts of early history that remained on record than with the complex political and social life with which we found ourselves face to face at the present time. The great difficulty in teaching history was to know what to leave out. Text-books on the subject were commonly loaded with unnecessary detail, and it would be a real service to the cause of education if a text-book were written by a competent man in which, while minor events were placed in their proper subordination, the leading facts—the facts which marked the progress of the nation—were brought out prominently, and invested with that glamour and charm which would make them interesting to young people.

Miss Low remarked that it was a characteristic of the child mind to insist upon the connexion of the unknown with the known, and children's comprehension of past history must depend to a large extent on their insight into present events. It was important, therefore, that the teacher should clearly explain the present before he attempted to teach the past. She was afraid it was impossible to clothe with glamour institutions or organizations, which must always be dull studies for the young child. She considered it as valuable that the child should have an insight into social developments as that it should have a knowledge of ecclesiastical history.

Mr. Orchard said he could not agree with the plan recommended by Sir Roland Wilson, because it lacked consecutiveness, which was an essential requisite in teaching history. At the same time, he thought it was advisable to teach the more important features of history before filling in the details, however interesting these might be. In other words, he would follow the scientific plan of teaching the anatomy before the physiology. The paper, he thought, went far to bring about the union of philosophic principles with the teaching of history, without which there was no harmony in science and no vitality in art.

Mr. Lewis thought that examiners might very well be defended for not carrying the study of history for young children further than 1815, because the events of recent times were too near to us to be viewed in their due perspective.

Mr. Malden having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

SECONDARY TRAINING.

The Joint Committee on the Training of Teachers in Secondary Schools met for the third time at the College of Preceptors on May 11, from 3 to 5.30 p.m. The afternoon was spent in an interesting and profitable discussion with Mr. Whitelaw, of Rugby, Mr. Lowry, of Eton, and the Rev. C. G. Gull, Headmaster of the Grocers' Company's School, who had been invited with a view of aiding the Committee with information, especially as to the standpoint from which proposals for training are criticised in the large public schools and in other quarters. The Committee will meet again on June 2 and proceed further with the drafting of resolutions based on the findings of the Royal Commission.

Education supplies us with some interesting gleanings from various replies to last year's circular of the Headmasters' Committee. We make a few extracts from this testimony, which exhibits, as our contemporary says, "a variety of efforts, most of them tentative, but some more elaborately organized, to aid young teachers at the outset of their career." The names of the schools are withheld.

In one large public school an experiment was tried for one term of 1892. The probationer had no status as member of the staff, but was paid a small honorarium. *Method.*—He gave two or three lessons per week, and listened to many others. *Remarks and Suggestions.*—Two graduates went through this experience: one was advised *not* to join the profession—the other became a successful teacher. The plan was not popular with the staff; the boys did not suffer. The master's work was rather increased than diminished by it. The probationer was attached to a selected master for periods varying from a week to a fortnight; he listened to that master's and the headmaster's lessons, and sometimes gave lessons in the presence of that master and of the headmaster, these lessons being afterwards criticised. In this way the probationer "came necessarily under five or six masters, saw their methods, and studied the needs of boys of different ages and standings."

At another public school a plan was in operation in 1894–95. The probationer was given board and lodging and some payment for relief work. *Method.*—Very little teaching was done by him, but a good many opportunities of listening to teaching were afforded. The headmaster superintended his work, in one case assisted by a master of method. *Remarks and Suggestions.*—The scheme was dropped for want of room.

Letters have been received from other headmasters of public schools describing their methods of giving aid to assistants when they are beginning to teach. In one case the headmaster frequently visits the class-room of a new teacher and hears him give a lesson. Occasionally the new-comer is allowed to be present at a lesson given by an older master, who is known to be a good teacher. The results of the headmaster's "review" of the forms are made accessible to all the staff. The terminal examinations are arranged so that one experienced master examines the class of a beginner, while the new hand examines the class of the other.

Other particulars have been supplied by various first and second grade secondary schools:—

4. *A Large Grammar School.*—An experiment tried, 1893–96. The probationer was considered as a school pupil. *Method.*—The probationer taught six hours per week, and spent three hours per week in attending criticism lessons. He helped the science master. He worked for the A.C.P. Examination. *Remarks and Suggestions.*—There were two probationers, who both had won the Teachers' Scholarship of the College of Preceptors. They also attended courses of lectures on education at the University College in the city.

9. *London Day School.*—Plan in operation, 1895–96. Probationer a scholar of the College of Preceptors' Training College. *Method.*—Five to nine hours a week spent in teaching and in listening to others teaching. *Remarks and Suggestions.*—The headmaster considered that the student had gained great advantage from the experience, especially in the latter months, when he was entrusted with responsibility.

9 *a, b, c, d.*—Similar cases (1895–97) of students being trained at the College of Preceptors' Training College and gaining experience by probation at the same time. In one case the student received a small salary in return for services.

14. Plan still in operation. Probationer a pupil for his first year with a small and slowly increasing salary. *Method.*—Probationer teaches twenty hours a week, spends three hours a week in listening to teaching, and three hours a week in helping older teachers in routine work. The headmaster sees notes of lessons. The period of probation is five years. *Remarks and Suggestions.*—The probationers are apprentices under an agreement; they are prepared for the London University examinations, and spend one year at the Yorkshire College.

15. Plan in operation 1893–6. Probationer a member of the staff, with small but increasing allowance. *Method.*—Probationer teaches twenty hours a week, spends six or seven hours a week helping older teachers, and takes a share of lighter off duties. The period of probation is six years, and usually begins when the student is sixteen years old. These years are spent as follows: 16–17 at another school to matriculate; 17–18 at the first school in teaching under supervision; 18–19 at Yorkshire College in preparation for a degree examination and in studying education; 20–22 at the first school again in teaching, with some responsible duties.

16. Plan in operation for many years. Probationer an assistant-teacher with part salary. *Method.*—Similar to that of No. 15. Two years are spent at the Yorkshire College. The whole period of probation is usually five years. *Remarks and Suggestions.*—There is now a difficulty in getting probationers. Fifteen years ago there were seven in the school; now there are only two.

(Nos. 14–16 are Friends' schools.)

It will be seen that a few secondary schools have distinguished themselves—and we cannot understand why their names are not given—by solving the problem of training on their own account. It is only right to add that the Joint Committee, which has taken up the inquiry originated by the Headmasters' Association, has more than justified its existence, and that the complete record of its investigations will be a very valuable document.

THE LATE LADY ABERDARE.

NORAH, LADY ABERDARE, died on Tuesday, April 27, surviving her husband just over two years. She was the youngest daughter of General Sir William Napier, granddaughter of Lady Sarah Lennox—"the mother of the Napiers"—and great-niece of Charles James Fox. She married in 1855, as his second wife, Henry Austin Bruce, Esq., Home Secretary in Mr. Gladstone's ministry, 1868–73, and afterwards President of the Council with the title of Lord Aberdare, the name of the large colliery town near their home—Duffryn, Mountain Ash. She fully shared Lord Aberdare's interests and labours for education, and in all movements for intellectual and moral advancement. They were together the leaders of that great educational development in Wales which has given to the Principality within twenty years its three colleges, its ninety intermediate schools, and the University, of which he was the first Chancellor. Her name will ever be associated with the educational advancement of women, and in Wales especially in connexion with Aberdare Hall, Cardiff, the residence for women students, of which she was the first and only President, and her daughter (now the Hon. Mrs. Russell) the first Principal. As President of this Hall, as a member of the Court of the University of Wales, a member of the Court of Governors and of the Council of the University College, Cardiff, and as President of the Association for Promoting the Education of Girls in Wales, she had an important influence in directing the development of higher and intermediate education, and was actively engaged in administrative work. She realized, also, the need for technical education, and was intimately connected with the Training School of Cookery and Domestic Arts, Cardiff, instituting also in her own neighbourhood classes in cookery, ambulance, sick nursing, wood-carving, &c. Her philanthropic work was specially valuable, being always educational in influence. She identified herself with the temperance cause, establishing and promoting the formation of women's branches of the Church of England Temperance Society. She combined a singular charm of person and manner, and an intellectual culture of high order, with a remarkable business capacity, a great breadth of mind and sympathy with a keen insight, especially into the social problems affecting her own sex. As a speaker her incisive language. her perspicuity, and persuasive manner gave her great power. Her loss is a heavy one to the many who looked to her as leader, friend, and adviser, and who realize that a great life of work and usefulness is over.

Aberdare Hall. ETHEL HURLBATT.

"SHOP."

"I want to know a butcher paints,
A baker rhymes for his pursuit,
Candlestick-maker much acquaints
His soul with song or, haply mute,
Blows out his brains upon the flute.

. . . . .

"But—shop each day and all day long!
Friend, your good angel slept, your star
Suffered eclipse, Fate did you wrong!
From where these sorts of treasures are,
There should our hearts be—Christ, how far!"

WHAT a happy thing it would be if these verses of Browning could be inscribed over the door and enshrined on the heart of every teacher! For there is probably no other profession in which it is at once so easy and so fatal to fall a prey to that diseased form of specialism familiarly known as "shop." It is so easy to boast that we are all specialists now, and in so doing to forget that a man's specialism should be a part only of his life, by means of which you may, if you like, describe, but not *define*, him—since a man is more than a specialist. Who does not know the weariness produced on one's mind by a person who plays eternally on but one of the strings of life? It is true that such persons are often found among those who are most enthusiastic about their work; but this is but little consolation to the victim. There is, for example, the eager man of business whose mind runs always on markets and investments, and who judges all political action by its commercial result. Try as you will to lead him gently into other channels, the moment you let go your hold his conversation is back again in its accustomed ruts, and you can only pray for patience and hope that the end may be soon. Then there is the zealous hospital nurse, in the first flush of her strenuous experiences. She talks of nothing but "cases," "operations," and "duty," and produces in your mind the uncomfortable feeling that nothing would give her more real pleasure than to learn that you had just broken your leg or developed an interesting but fatal disease. A less worthy example of the type is the hydropathic invalid who has specialized in her own symptoms and displays a yearning desire to communicate her knowledge to every one she meets.

But one has an uneasy feeling that the outside world considers that of all men the schoolmaster is most liable to be attacked by the disease aforementioned. You remember what Charles Lamb said on the matter:—

"Why are we never quite at ease in the presence of a schoolmaster? Because we are conscious that he is not quite at ease in ours. He is awkward and out of place in the society of his equals. He comes like Gulliver from among his little people, and he cannot fit the stature of his understanding to yours. He is so used to teaching that he wants to be teaching you."

Now it is happily true that, in the words of the syllogism, "All schoolmasters are not pedants"; but it is also a fact that constant association with persons younger and less wise than oneself, and under one's control, does tend to produce a certain didactic, ultra-important, sapient attitude of mind which is peculiarly irritating and at the same time ludicrous to ordinary folk. The author of "Dodo" says that a governess can be unmistakably identified by a simple test—does she take seed-cake and water at lunch? If so, there is no doubt whatever as to her calling. We are further told that the schoolmaster is easily recognised in August and abroad by his air of general proprietorship, and I have even heard it whispered that no high-school mistress has yet been able to conceal her profession. Can it be that "the trail of the serpent" is over us all? Without taking the opinion of Mr. Benson and the rest too seriously, one has to confess the tendency to officialism in the members of the teaching profession. The conditions of their lives too often induce it. Many teachers, and especially women, live in lodgings in towns where they have few friends, and are consequently more or less obliged to live exclusively within the circle of professional ideas and professional people. Men have greater social opportunities than women, and they keep a keen watch over leisure hours; but overwork comes to both alike, and, unless public opinion and the opinion of councils and heads of schools can be more strongly roused against it, "shop each day and all day long" will continue to be the record of large numbers of weary teachers. I heard once of a headmistress who made it a condition of work at her school that the members of her staff gave up all social engagements. One can only hope in such a case that other things than virtue are their own reward. I should be sorry to be a pupil in such a school, and should not expect the most enlivening lessons from those who had taken the awful vow of renunciation.

It is pleasant to remember in contrast Thring's definition of education as the transmission of life from the living, through the living, to the living. Yet, I suppose, every one will allow that Thring was a great schoolmaster; he was also a delightful man. There are teachers whose vitality pervades all their teaching—who teach much more than history in a history lesson, and who leave their classes feeling more vigorous, mentally, at the close than at the opening. I remember one or two gratefully, and have an equally good memory for several highly certificated and deadly dull persons who came and bored us weekly with their intolerably dull instruction. We have, no doubt, all met the virtuous lady who says that her *work* is enough for her if she does it properly, and, under the humiliation of the implied reproof to our frivolity, we have felt the impossibility of pointing out that perhaps even her *work* would gain by a little fresh air from the world outside the schoolroom walls. Equally well do we know that other educational lady who has the word "education" written in large letters all over her face, and also has it constantly on her lips. She has sad eyes, and is morbidly anxiously about her "influence" among the girls. Nature has left her cruelly devoid of the gift of humour, and she tries laboriously and conscientiously to do her pupils good. There is infinite pathos in her case, because, in the nature of things, her results are in the inverse ratio of her efforts, influence being one of those perverse and spontaneous phenomena which, even in this mechanical age, utterly refuse to be either produced or regulated by machinery.

There are, at any rate, some precautions which can be taken against this insidious disease. It is absolutely essential to have a certain number of faithful friends who care nothing whatever about the Junior and the Senior Cambridge Examinations, and who will even talk lightly of the certificates of the Joint Examining Board. They will have an excellent effect on any one suffering from the malady of examinations. It is also advisable not to limit one's evening recreation to the periodic meetings of the Teachers' Guild, excellent as these are in their province. None but very grave reasons of conscience or necessity should induce any one but a person of very independent mind to *live at the school* together with the rest of the staff. I believe that masters very rarely do so, but in girls' schools the practice is much too common. It seems at first such a pleasant sociable arrangement that one is deceived as to its real nature; but do not allow yourself to be blinded by the fairness of its outward appearance. The advantages are obvious, you say. You can go straight to your class-room from the breakfast table without the annoying waste of time entailed by a walk to the school. There is every facility for serious work. There is, indeed; there is really no reason why you should do anything else, and of this you will soon be convinced. You will go further shortly, and believe that it would be very wrong to do anything else. The whole atmosphere is conducive to study, and it is so helpful to have one's colleagues always at hand to consult upon the difficult problems which arise. Then, though one knows practically nobody in the neighbourhood, there is really no need to do so, for one has all that is required at the school in the society of persons whose interests are so delightfully like one's own. How true it all sounds, and how virtuous! Nevertheless, how

false it is in reality, and how very injurious its effects are as a rule! I say "as a rule" because it is possible to avoid the cramping dulling effects of such a system of life upon one's intelligence, but it is no easy matter to resist its influence, particularly in a country district, where this arrangement is most commonly found. Do you not know the kind of tea-table conversation of such a school, especially if there are a few boarders—and there generally are? It tends to pedantry on the one hand or silliness on the other, and is frequently a mixture of the two. The fact is, only the most original minds can do without the stimulus of fresh ideas and new points of view, and these cannot be easily got from persons whom one sees from 7 o'clock in the morning to 10.30 at night, and who themselves have no other occupation than to give and prepare lessons, and to correct exercises in just such an environment of desks and benches as one's own.

If, then, you have an original mind and an independent will, and if you are proof against all influences which make for stagnation, go, by all means, to a resident post, and you will find a fruitful field for missionary effort, which should bring a rich reward.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A MEETING of the Council was held at the College, Bloomsbury Square, on the 19th of May. Present—Mr. J. Stewart, Vice-President, in the Chair; Miss Bailey, Mr. Baumann, Rev. J. O. Bevan, Mr. Bidlake, Dr. Buchheim, Mr. Charles, Mr. Eve, Mr. Harris, Mr. Milne, Mr. Montgomery, Mr. Pinches, Rev. Dr. Poole, Mr. Reynolds, Rev. Dr. Scott, Mr. Sergeant, and Rev. J. Twentyman.

The minutes of the last meeting were read and confirmed.

A congratulatory Address to Her Majesty the Queen on the completion of the sixtieth anniversary of her reign was unanimously adopted.

The Council appointed delegates to attend the forthcoming International Congress on Technical Education.

The report of the Examination Committee was adopted.

The following persons were elected Members of the College:—

Miss E. M. Baverstock, 24 Holford Square, W.C.
Mr. M. Harvey, A.C.P., Penzance College, Penzance.
Mr. A. Kahn, M.A. Camb., 55 Pyrland Road, N.

The following books had been presented to the Library since the last meeting:—

By BLACKIE & SON.—Blackie's Gems of School Song; "Palmerston" Readers (Primer I. and Books II., III., and IV.); Baumann's Second German Course; Brock's German Stories; Brown's Cæsar's Gallic War, Book IV.; Carpenter's English Lyric Poetry (1500–1700); Gorse's Milton's Paradise Lost, Book II.; Harrison's Geology.

By C. J. CLAY & SONS.—Wyatt's Elementary Old English Grammar.

By W. B. CLIVE.—Bryan and Rosenberg's First Stage Mechanics of Fluids; Davies' First Stage Physiography; Masom's Livy, Book VI.; Thompson and Hayes' Herodotus, Book III.

By MACMILLAN & CO.—Marchant's Thucydides, Book VI.; Page's Virgil's Georgic IV.; Sandys' Demosthenes' First Philippic and Olynthiacs; Tyrrell's Euripides' Troades.

By G. PHILIP & SON.—Alexander's Hoop Exercises; Bell's Flowering Plants; Taylor's How to Sing at Sight from the Staff.

Calendars of Queen's College, Galway; Royal University of Ireland, 1897, and Supplement.

REVIEWS.

THE EDUCATION OF WOMEN.

Education of Girls and Women in Great Britain. By C. S. Bremner, with a preface by Miss E. P. Hughes. (Swan Sonnenschein.)

A survey of the conditions under which the education of girls and women is now placed, and a sketch of the history of the legislation and endowments of the agencies and institutions by which it has been facilitated, is an appropriate contribution to the literature of the Jubilee. So remarkable has been the progress of education, and especially of the secondary or higher education of girls, during the Queen's reign, that with some reason it might be considered one of the most characteristic features of this period. Miss Bremner's book is not only a compendium of information as to existing facts, likely to be useful at this time of impending legislation, but also a history of a social movement largely brought about by women, who, in their foresight, devotion, wisdom in council and steadiness in action, were not unworthy of their royal mistress. It would have been better, perhaps, had the author confined her purview to the last sixty years. Her account of the education in pre-Reformation times and later appears both inadequate and not quite correct. It was one of the glories of the Humanist educators that they made no difference between the sexes; and, although the spirit of the Renaissance was narrowed by the bonds of the Reformation, especially in this country, yet there can be little doubt that the education of women was a good deal higher and a good deal more widely spread during the sixteenth, seventeenth, and perhaps, eighteenth centuries than Miss Bremner seems to admit. The English girl pupils of Ascham and Cheke were probably as far advanced as the Italian pupils of Da Feltre a hundred years before. One interesting and suggestive fact is well brought out in this historical retrospect, that any effective demand for secondary education must come from below: "The Reformation in England was indifferent to popular education, the people rebelled to have their old churches and monasteries reinstated; the Reformation was from above." In 1562 "it was definitely stated to Parliament that a hundred schools were now lacking where, before the Reformation, they had existed." In Scotland, however, where the Reformation came from below, "The First Book of Discipline," published in 1560, provided for a school in every parish and town, as well as "colleges" in the "notable towns."

Turning to modern times, we see clearly a similar process in operation. When the Queen began to reign, Government inspection had not yet been established; a Government grant had only just come into existence. The development of elementary and secondary education that has gradually taken place since then has not been due to far-seeing statesmen and enlightened Parliaments. It was largely the work of private individuals, societies, and boards:—

> The State was not ready, but they were. In a few years we find the Home and Colonial Society at work (1836), the Centre Society, London Diocesan Board, Congregational Board, Church of England Sunday School Institute, Ragged School Union, College of Preceptors, Church of England Education Society, besides the Society for Promoting Christian Knowledge, the British and Foreign School Society, and the National Society . . . In London above sixty societies arose in thirty years.

In the primary schools, Miss Bremner thinks, girls specialize too early, and she finds this specialization to consist in learning to sew. For the sake of learning to sew, the girls sacrifice subjects of real educational value, as drawing, history, and arithmetic, and all "to gain skill in a handicraft for which they have seldom shown much liking, and which is largely rendered useless by the sewing-machine, and by the growing custom of buying ready-made garments." We may venture to suggest, with all deference, that buttons sometimes come off even ready-made garments, and it is at least convenient that some one should be able to replace them. We grant that too much time may be spent on "fancy needlework." But though the "Band and gusset and seam" may now be worked by a machine, we hope that to teach the practice of plain needlework is not "to fling sound educational axioms to the winds."

The chapter on Secondary Education contains some interesting historical matter. At the time of the Schools Inquiry Commission of 1865 "few [girls'] schools were doing anything like efficient work." In the improvement that has taken place, "first, in point of time, credit must be given to the Local examinations" In this agency the College of Preceptors was first in the field, its first examination of a girls' school being in 1851. The Oxford and Cambridge Local Examinations, which began some seven or eight years later, were at first confined to boys. It was only after a battle lasting for seven years that Cambridge was induced to throw open these examinations to girls. About the same time the University Extension movement started, in a course of lectures delivered to ladies by Professor James Stuart at Leeds, Liverpool, Manchester, and Sheffield. Of the influence of the Girls' Public Day School Company Miss Bremner writes in somewhat exaggerated terms. We hope it is not true that "in the mistresses of these high schools, both head and assistant, we have seen a new type of woman evolved." The great work of Miss Buss, Miss Beale, Mrs. Grey, and Miss Shirreff and other leaders is detailed. We pass from schools to colleges, and read once more the interesting story of the foundation of Girton and Newnham, a story as romantic and incredible (were it not a fact) as that of the foundation of the college of the Princess Ida and its "sweet girl graduates with their golden hair." We have not space to mention the other numerous agencies described by Miss Bremner, nor to do more than refer to the valuable chapters on education in Scotland, by Mr. Alexander and Mrs. Galloway, with which the volume concludes. We can only briefly indicate one or two special points.

Miss Bremner states that endowments for girls' schools, &c., are increasing. Undoubtedly about twenty years ago they did increase, but we doubt whether this movement is progressive. Some valuable but incomplete statistics are given of what becomes of the highly-trained women who leave the colleges, and the difficulty of such women obtaining employment that is adequately remunerative is shown. "The opening of more employments to women, and higher rewards for their labour, are of prime necessity as direct incentives to women's education." Secondary education is at present still the privilege of the richer middle class. Of the lower middle class Miss Bremner writes: "Little is expected of girls of this class of life, and less than little is obtained." The importance of combination on the part of teachers is strongly emphasized; the evils of the isolation in which teachers—especially women teachers—live are most sensibly indicated. There is not much about private schools. In fact, the book, in dealing with this department of education, does little more than quote the Report of the recent Commission, and point out the effect of Welsh intermediate education in stamping out many small and inefficient private schools. It should not, however, be forgotten that the tone of the private schools has risen *pari passu* with that of the public schools. Many a teacher who has not been fortunate enough to win public fame has done work in her own school worthy of being ranked with that of the great teachers and organizers who are mentioned.

In 1881 an American writer said: "England is a paradise for men." In this interesting book there is evidence that women are very well able to hold their own in the struggle for educational advantages.

A Popular Aristotle.

Lectures from the Lyceum; or, Aristotle's Ethics for English Readers. Edited by St. George Stock. (Longmans.)

Since Sir Alexander Grant desiderated a solution of the problem of Aristotle's translation—"how to convey, in readable English, a philosophical style full of technical terms for which we have no exact representatives"—some progress, it may be claimed, has been worthily accomplished. Mr. Hatch's able work came promptly as a sort of practical answer to Sir Alexander's challenge, and its aim was expressly stated to be "to make the 'Nicomachean Ethics' of Aristotle intelligible to a modern reader." Mr. Hatch endeavoured to compass his end mainly by devising such modifications of the style of the original as to enable modern readers to pass comfortably through the intricacies and obscurities of the text. For the beginner in Aristotelian study he supplied missing links in the thought, expanded brief hints into readily intelligible forms, and brought to the surface much that lay too deep for the apprehension of the average English student. His fine volume, however, is further complicated with a vast deal of matter that only the profound student of philosophy will care to tackle; and the magnitude of the work must always be rather discouraging to a beginner. Mr. Stock's "Lectures" will be found to be an admirable preliminary course, not only paving the way to translations and commentaries, and even to the original, but also alluring the student to pursue the way. For he has boldly seized the main substance of the "Ethics," and put Aristotle in a modern professorial chair to redeliver his moral philosophy in the form of modern lectures to modern beginners in the study. The idea is as valuable as it is courageous, and we trust it will prove successful in the widest popular sense.

From the point of view of pure scholarship it is, of course, right and proper that the language of Aristotle should receive exact and formal study. But from the point of view of philosophy, a larger liberty is to be demanded, and the main thing, after all, is to get at the mind of the master. This is just the very thing that Mr. Stock enables his readers to attain. Nor does he shirk any of the difficulties that encounter the expositor and the student; his scholarly conscience or instinct has not allowed him to do that, even when his purpose is deliberately popular. The work is admirably executed throughout, being evidently the flower of long preparatory study. It cannot but be helpful, in the largest measure, to University students; and it is, we should confidently say, not beneath the notice of lecturers, professorial or even lesser. But the outstanding importance of the volume, to our mind, lies in its wider possibilities of usefulness. There are, as everyone that cares for the things of the mind knows, multitudes of men—and women—who for one reason or another never cross the threshold of a college or University, but who, nevertheless, are eager to furnish their minds with the material of scholastic training. Here, then, is an indefinitely large and growing constituency which needs but to know of the existence of this volume to accord it a hearty welcome. Indeed, it would be hard to say what class of readers, with minds above the plot and chatter of a penny novelette, would not find interest in the systematic development of the leading principles of social organization or intercourse as conceived by one of the greatest minds of all time.

It is very possible that uncritical intellects may receive occasional shocks of surprise, but that will do them a world of good. Thus: "Let it suffice to say now that life is like the Olympic games. Most people come to enjoy themselves; there are many who come to buy and sell and make profit; some come to contend for honour; a few come merely to survey the scene—and these are the nobler portion. As to the money-getting life, that is no life at all." There is a striking view, suggestive in the highest degree, under the social developments subsequent to Aristotle, and particularly in the existing environments here and now. Again: "Men are such worshippers of power that they forget that the lust for gain which leads to sacking cities and plundering temples is only a magnified form of the same spirit which would annex your pocket handkerchief." The proposition has still its ready applications. Further, "Gambling is a form of civil war: it is easy to see that this, if practised on a large scale, would be disastrous to a nation." The argument is by no means obsolete, after more than twenty centuries of the conduct of social life. Once more: "Have you an intention of liberality? If so, consider this. The liberal man does not 'slap' his benefits 'about.' . . . To be liberal a man must give from the motive of right and in the correct way, being careful to choose the proper persons, the proper amount, the proper time, and so on." If Aristotle were amongst us now, he would be able to illustrate his principles with plenty of modern instances that do, and that do not, conform to them. True, these are the words of Mr. Stock, but they represent the mind of Aristotle. We should add that Mr. Stock obtains excellent dramatic effects from the occasional intervention of remarks by Theophrastus, Aristotle's successor in the headship of the Peripatetic School, Eudemus, the prominent disciple who wrote the "Eudemian Ethics," and Nicomachus, the philosopher's son, who died young, and whose name has been given to the "Nicomachean Ethics."

For Students of Literature.

(1) *A Handbook of English Literature.* By Austin Dobson. Revised and extended by W. Hall Griffin. (Lockwood & Son.) (2) "The Warwick Library of English Literature."—*English Lyric Poetry, 1500–1700.* With an Introduction by Dr. F. J. Carpenter. (Blackie.) (3) *Select Poems of Robert Burns.* With Introduction and Notes by A. J. George, M.A. (Isbister.)

(1) One of Mr. Austin Dobson's earlier contributions to the study of English literature was a handbook originally compiled —more than twenty years ago— for the use of Civil Service candidates. In 1880, a new edition, with somewhat enlarged scope, secured the approval of a considerable number of readers; and now Professor Hall Griffin, who recently rounded off the last work of the late Professor Henry Morley, has undertaken to bring Mr. Dobson's volume down to date. The general features of the book will be familiar to many of our readers. It does not profess to be a history, nor to treat literature in a philosophical spirit as a reflex of the psychology of the people. nor to include the results of original research. It is a record of facts and main characteristics; but the facts are stated with so much conciseness and clear arrangement, and the characteristics are so pleasantly and lightly described, that this handbook is very agreeable to read. If it were not the precursor of many others, and amply worthy of being reprinted, we should take occasion to remark on the superabundance of literary manuals which have lately made their appearance. The appendix, of five-and-twenty extracts illustrating the language up to the end of the sixteenth century, and the "dictionary of minor authors," which Mr. Griffin has extended to some five hundred names, are both very serviceable.

(2) Professor Herford gives us a fourth volume of his excellent "Warwick Library," containing well-chosen specimens of English lyric poetry from the sixteenth and seventeenth centuries. Dr. Carpenter is a Chicago lecturer, and his introductory essay bears witness to much labour, as his collection testifies to his judgment and taste. Needless to say that in the Elizabethan

period, and even in the pre-Elizabethan period, he has found a rich harvest of lyrical verse, full of spirit and freshness, of imagery and idea. Dr. Carpenter says very well:—

In the broadest sense, lyricism, the salient, personal, and rhythmical expression of the individual passion and sense of things, is the pervading note of the Elizabethan times. English history at all times has been largely the struggle of the individual for emancipation and self-manifestation. Hence lyric art, in all its composite forms, is peculiarly an English art, and the lyricism of English poetry is its most constant and permanent element. So we find that the very drama of the Elizabethans is pervaded by this prevailing lyric mood.

That is, perhaps, a reminiscence of something to the same effect by John Addington Symonds, but, at all events, it is a veracious utterance.

(3) Mr. George, also, is an American critic, of the newer, and, on the whole, better, school, which draws largely on the commentators and critics of the nineteenth century, collating and comparing a multitude of judgments, often at the risk of suggesting that one critic is very much the equal of another, and that, in order to know as much as possible of an author, you have only to know what as many as possible have said about him. It is an informing method of literary study, to which we make no great objection. Indeed, it is not long since we noted with approval Mr. George's edition of Coleridge's "Principles of Criticism," extracted from the "Biographia Literaria," in which the same method was pursued with no small success. The selected pieces from the poetry of Burns are adequate in number, and representative of all his best qualities.

Some German Books on Literary History.

(1) *Geschichte der englischen Litteratur von ihren Anfängen bis auf die neueste Zeit. Mit einem Anhang: Geschichte der Litteratur Nordamerikas.* Von Eduard Engel. Vierte, völlig neubearbeitete Auflage. Heft I. (Leipzig: J. Baedeker.) (2) *William Shakespeare: Ein Handbüchlein.* (Same author and publisher.) (3) *Geschichte der deutschen National-Litteratur. Zum Gebrauche an höheren Unterrichtsanstalten und zum Selbststudium bearbeitet.* Von Professor Dr. Hermann Kluge. Achtundzwanzigste verbesserte Auflage. (Altenburg: Oskar Bonde. London: Siegle.) (4) *Geschichte der deutschen Litteratur von den ältesten Zeiten bis zur Gegenwart.* Von Professor Dr. Friedrich Voigt und Professor Dr. Max Koch. (Leipzig: Bibliographisches Institut. London: Siegle.)

(1) We recently noticed an excellent history of English literature by the learned Anglo-Saxon scholar, Professor R. Wülker, and now we have on our table the first part of a "Geschichte der englischen Litteratur," by the well-known literary historian, Dr. Eduard Engel. The book in its former issues will be familiar to many of our readers, but the present issue, being a "völlig neubearbeitete Auflage," deserves to be considered as a new publication. Dr. Engel possesses the two essential qualities for writing such a work, a thorough knowledge of, and a warm sympathy with, the subject. The former he has proved by appending to every chapter a well-chosen bibliography of books consulted. As regards the second quality, we cannot do better than quote the author's own words, from the end of his introduction:—

Wahrlich, es ist eine Freude [says Dr. Engel], ein Hochgenuss, für alle besten Fähigkeiten gebildeter Menschen, sich in eine so reiche, so schöne und so edle Litteratur wie die englische zu vertiefen. Es schlägt darin das Herz eines hochgemuten Volkes, und es sprechen daraus Geister zu uns, die der Stolz ihres Vaterlandes und der Menschheit sind.

A stronger evidence of sympathy with English life and thought cannot be imagined. The first part of the work, which stops in the middle of the chapter on "Shakespeare's Predecessors," is very satisfactorily done, but in order to judge of the work as a whole we must wait until its completion. There are four more parts to follow, and we understand that the task is expected to be completed during the present publishing season.

(2) The second work on our list, by the same author, is a short and practically arranged handbook on Shakespeare. It is primarily intended for Germans, but being a sensible appreciation of the poet's life and works, given in a marvellously concise and lucid form, the monograph may safely be recommended to English readers of German, who are sure to find it useful and suggestive. Let us add that the little book contains a most judicious chapter on "The Bacon-*Wahn*," conclusively showing the folly of attributing to Bacon the immortal works of Shakespeare, who was acknowledged by a number of his contemporaries as their author. A short and useful bibliography (in which we only miss Professor Dowden's admirable "Introduction to Shakespeare") is appended to the treatise, which, like the author's "History of English Literature," is written in an easy and elegant style. We think, however, that, short as the handbook is, a complete index would have greatly added to its utility.

(3) Professor H. Kluge's "Geschichte der deutschen National Litteratur" is so well-known wherever German is studied that it will suffice to state that the book has reached a twenty-eighth edition, and that the author has thoroughly revised it. Those of our readers who are acquainted with the manual will know that it is written in a simple and popular style, and that a deep knowledge of German is by no means required for a thorough understanding of it. The book, which may be particularly recommended for examination purposes, has been translated into French and Italian, and Miss Lublin's "Primer of German Literature" is based on the Professor's work.

(4) For the present it will suffice to state that the "Geschichte der deutschen Litteratur," by the distinguished literary historians Professors F. Voigt and M. Koch, to which we called attention at the time when the first "Lieferung" had appeared, is approaching completion. This excellent work, which is to be a pendant to Professor Wülker's "History of English Literature," is to consist of fourteen parts, nine of which have already been published.

SHORT NOTICES.

CLASSICS.

Demosthenes, First Philippic and Olynthiacs, edited by Dr. J. E. Sandys (Macmillan), is a volume of the publishers' well-known classical series. The edition is marked by the scholarly care to which we are accustomed in Dr. Sandys' books, and is thorough and complete. In his introduction he gives a large amount of historical matter, adequate analyses of the speeches, and some judicious remarks upon the text and the principles applied to it by Blass. The commentary and critical notes give abundant evidence of the most careful research, and the various notes on the diction of Demosthenes are especially valuable. The only fault we have to find with the book is that it seems to us to be a little duller and heavier than it need have been.

Of a different character, but of equal value, is Professor Tyrrell's attractive little edition of the *Troades of Euripides* (Macmillan), in the same series. The introduction is of the smallest dimensions, and there are no critical footnotes; but the short commentary is very interesting, and displays on every page Dr. Tyrrell's fine judgment and literary sense. The parallels from modern poetry and the renderings (many of which are from Mr. Way's tasteful verse translation) lend additional charm to the book. In an appendix a description of the metres is given, which has the rare merit of being easily intelligible, and the notes have an independence and freshness that make them pleasant to read.

Virgil, Georgic IV., edited by Mr. T. E. Page (Macmillan), belongs to the series called "Elementary Classics"—is, indeed, suited for comparatively low forms—but it is so far from being beneath the notice of the highest classes that there are few readers who would not gain instruction from Mr. Page's very scholarly notes. Mr. Page is one of the few schoolmaster-editors of school-books who is never tiresome or pedantic, and who keeps his work uniformly at a high level of literary excellence. We have read his notes to the present volume with pleasure and profit.

The Poems of Horace, translated into English prose by Dr. A. H. Bryce (Bell & Sons), has been, to some extent, noticed in this column already, as the translation of the Odes appeared in separate volumes last year. But the larger portion of the book is new to us. "It would be as difficult," writes Dr. Bryce in his preface, adequately to represent the Odes of Horace in English as to reproduce Burns in Latin. With the Satires and Epistles the case is somewhat different, and the task an easier one." However that may be, we decidedly prefer his rendering of the *Sermones*, not very elegant though it be, to the rhythmical cadences that he perversely affects in the *Carmina*. One opens the Epodes at random, and the eye falls on this: "Sometimes you long to leap from lofty towers, sometimes to rend your breast with Noric sword; in vain you'll tie a noose around your throat, saddened by grief that loathes to live." Dr. Bryce opines that "rigid critics" may perhaps find fault with this sort of thing. If the epithet is to be earned by objecting to what may not be verse but is certainly not prose, we are willing to incur it. As a sample of his rendering of the Epistles, we may take the following passage from the sixth letter of the first book: "If show and popularity alone afford true blessedness, let us hire a slave to tell us names, to nudge us on the left, and force

us to stretch forth a hand to shake beyond all obstacles. This one can use much influence in the Fabian tribe: that one in the Veline: this third with dogged obstinacy will give or take away the fasces and the curule chair from whom he will." The last sentence obviously requires rewriting, and we strongly deprecate notes like that which Dr. Bryce appends to the words "beyond all obstacles," which is his notion of the meaning of *trans pondera*: "'Obstacles,'" says our guide, "literally weights, *i.e.*, weighty or large things. There have been many very silly suggestions made by learned men as to what the Latin word *pondera* here means," &c. We are constrained to say that Dr. Bryce has added one to the number. His note on "with dogged obstinacy" tells us that *importunus* is "a most difficult word for which to give an English equivalent. The primary meaning seems to be 'persistently disagreeable,' 'provoking,'" and so on. This is a surprising statement for an editor of Virgil to make, and we venture to recommend Dr. Bryce to consult Dr. Reid's note on Cicero, "Pro Sulla," § 66, where he will find some light shed on the word in question.

Swayne's *Herodotus*, Lucas Collins's *Virgil*, Sir Theodore Martin's *Horace*, and Anthony Trollope's *Cæsar* (William Blackwood & Sons) are reprints from the series called "Ancient Classics for English Readers." We think that the volumes should have been revised and brought up to date.

The new volumes of the "University Tutorial Series" (W. B. Clive) are *Herodotus, Book III.*, of which we have received also the Translation, and *Vergil, Æneid XII.* Both books contain all that is needed by candidates for examinations. We have before expressed surprise that the editors of Virgil in this series do not consult Henry's commentary. One curious result of this neglect is that the famous *crux* in the following couplet is passed over unnoticed—

"Es germana Jovis Saturnique altera proles:
Irarum tantos volvis sub pectore fluctus" (829)—

and we wonder with unfeigned wonder at anyone who can sit down to "edit" this immortal conversation between the celestial Sir Peter and Lady Teazle without his Henry.

Studies in Classical Philology, edited by a Committee. Vol. I. (Chicago University Press; Edward Arnold. 1895.)—We have been invited to notice the above work, and we gladly do so, although it appeared two years ago, and is now, we imagine, familiar to those English specialists whom it concerns. It contains five papers, one or two of which have also appeared separately. They are "The Anticipatory Subjunctive in Greek and Latin," by Professor W. G. Hale; "Vitruvius and the Greek Stage," by Mr. E. Capps; "The Direction of Writing on Attic Vases," by Professor F. B. Tarbell; the Osean-Umbrian Verb-System, by Professor C. D. Buck; and "The Idea of Good in Plato's Republic," by Professor P. Shorey. The writers are thus all scholars of marked ability, who are well known and respected in this country. A detailed review of the several articles will scarcely be looked for in these columns, and it will suffice to say that the general excellence and importance of the work have been recognized in the classical journals. Professor Hale is, of course, much influenced by Delbrück, but he is by no means in complete agreement with him. In "Vitruvius and the Greek Stage" Mr. Capps supports Dr. Dörpfeld's well-known theory that there was no stage and no proscenium in the Greek theatre of the fifth century B.C., and it may be worth mention that the German scholar's views are still unrefuted, in spite of much that has since been written on both sides. The titles of the other articles sufficiently indicate their nature, and we shall have fulfilled our purpose if these brief remarks should bring them under the notice of a larger circle of English students.

SCIENCE.

(1) *Elements of Descriptive Astronomy.* By H. A. Howe. (Boston, U.S.A.: Silver, Burdett, & Co.) (2) *A Manual of Chemistry, Theoretical and Practical.* By W. A. Tilden. (Churchill.) (3) *"Organized Science Series": First Stage Inorganic Chemistry.* By G. H. Bailey. (Clive.) (4) *Hygiene.* By H. R. Wakefield. (Blackie & Son.) (5) *Elements of Natural Science: Part II., Physiology and Zoology.* By Dr. H. Wettstein. (O. Newmann & Co.)

(1) This is a well-planned, clearly-written, and beautifully-illustrated introduction to astronomy. It contains not only a great deal of information, but abundant help to the amateur star-gazer; while, in the excellent American style, there are plenty of questions to test the reality of his knowledge at every stage.

(2) In bringing Fowne's *Manual* up to date, Professor Tilden has practically produced a new book, consisting of some 600 closely-printed pages. To the chemical student who has reached the stage of systematic study it will prove a most serviceable text-book; while others will find it a very useful work of reference. There is a slight want of clearness in some of the more elaborate diagrams, but this seems to be the fault of the printing. It is a pity that the three crystals in fig. 104 have all been put in different perspective.

(3) Mr. Bailey's book is intended to meet the requirements of students for the first stage May examination; and, within the limits necessarily imposed by these conditions, it is an admirable book, lucidly-written, well-arranged, and illustrated. All through, instructions for practical work are given.

(4) A clearly-written, well-illustrated book, covering the necessary ground for the first stage of hygiene. There is plenty of useful information and sensible advice in it.

(5) This is a translation of a work used in the secondary schools of Zurich. In England, such books are rather out of fashion. About 35 pages are devoted to an account of "Human Physiology"; descriptions of a dozen selected animal types occupy 18 more; and the remaining 127 take us through the whole animal kingdom. In all this there is a great deal of information of the merely miscellaneous kind, which is just the kind that English science-teaching is trying to get rid of, substituting for it a smaller amount of better *organized* knowledge. We therefore do not imagine that this translation will be very successful here.

MATHEMATICS.

(1) *A New Arithmetic.* By G. A. Christian, B.A., and G. Collar, B.A., B.Sc. (A. M. Holden.) (2) *Euclid, Book I., Made Easy.* By W. T. Mason, M.A. (Simpkin, Marshall, & Co.) (3) *A Treatise on Practical Plane and Solid Geometry.* By Messrs. T. J. Evans and W. W. F. Pullen. (Chapman & Hall).

(1) Mr. Christian's *New Arithmetic* is a very big volume, extending to 550 pages, but we have not been able to discover that it contains much more than some other arithmetics of half the size. There are a few theorems on recurring decimals not usually to be found in other books, and an appendix on logarithms, but we have failed to find anything about scales of notation. In the questions worked out in the text too much reliance is placed upon rules and formulas, instead of expressing the full reasoning. All questions involving quantities in proportion are worked out by "rule of three," nothing being said about the unitary method. There is, as might be expected, a tremendous array of examples. A good feature is the care taken to point out some of the errors that are commonly made by learners.

(2) Mr. Mason's book is a successful attempt to make Euclid easier for beginners. The plan adopted is to give a clear explanation of difficult points as they arise, to avoid all contractions and strange phrases, and to give after the enunciation of each theorem a full statement of the propositions employed in its proof. The order and methods of Euclid are strictly followed.

(3) The title of this book is somewhat misleading, as it is not a treatise, but a set of solutions to the honours questions in the Science and Art Department Examinations from 1887 to 1896, with some additional matter. The book will prove useful to all who have reached a fairly advanced stage in practical geometry.

MISCELLANEOUS.

An Elementary Old English Grammar (Early West Saxon). By A. J. Wyatt, M.A. (Cambridge University Press.)

Mr. Wyatt takes German as his guide to Old English, though he does not needlessly obtrude the continental analogues. His method is as simple as it could be made, and all possible assistance is rendered to the student by the excellent arrangement and admirable printing of the text. We start with seven pages of paradigms, and these suffice to prepare us for the companion "Reading Primer"; after which the accidence and phonology of the *Grammar* will not be found to be beyond the reach of a studious and careful reader. Mr. Wyatt has laid all students of the Early West Saxon speech under a great obligation, which he will increase when his promised "Old English Anthology" sees the light.

Smithson's Elocution and the Dramatic Art. Edited by C. R. Turner, M.A., LL.B. (Bell & Sons.)

The word "Elocution" on a title-page gives rise to a certain foreboding, which it is not difficult to understand. The essentials of elocution are a true feeling for art, which is a matter of temperament; a sympathetic voice, which is a physical endowment; and a sustained effort to express the feeling on the instrument of the voice. Clearly there is little for the teacher to do beyond stimulating the effort. Mr. Smithson says that "elocution cannot be taught without a master." Well, nothing can be taught without a master. But one may be born eloquent, and he may then elocute if he will, whereas no master can teach elocution, though he can teach spouting, to a pupil who has not feeling and a good voice. Quacks will undertake to teach anyone elocution at so much a lesson. But Mr. Smithson was a candid man and a genuine teacher. What we have in this book is a very sensible introduction and an excellent selection of pieces.

Notes on English Grammar. By A. Allen Brockington, B.A. (Relfe Brothers.)

This is a little book with the very good intention of making its readers think. If you can get a young learner to think, you have fulfilled nine-tenths of the function of teaching. We are inclined to add, as a paradox, that it does not much matter whether what you tell him (that is the other tenth of your teaching) is right or wrong, so long as you have mainly taught him to think, because he will one day be able to convict you of ignorance in some details of your tenth, whilst

he justifies you with nine-tenths of his thinking mind. In teaching to think, Mr. Brockington is sometimes a little over-subtle, as when he defines words as "merely varieties of logical duty." Immediately after this (on the first page) he commits an illogical breach of duty by placing emphasis on the statement "that that *that*, that he had just parsed, was a Pronoun." "That" is never a pronoun; where it looks most like a pronoun it is still an adjective, leaving its substantive unexpressed. When you are dealing with "logical duties," these definitions are very serious matters.

Poems Dedicated to National Independence and Liberty. By William Wordsworth. With an Introduction by Stopford A. Brooke. (Isbister.)

It is difficult to do more than draw attention to this reprint of Wordsworth's *Poems of Liberty*, published by him in 1816, and to Mr. Stopford Brooke's introduction. The latter is written with emotion which rises occasionally to heat—as where he says that if Wordsworth were alive, in the spirit of 1802, he would appeal to the soul of England as he appealed in his younger and more generous days. "What does the soul of England say when it sees a people, made desperate by cruelties, struggling bravely to be free, held down by the throat by England?" The editor draws the true distinction between the two Wordsworths—the young and fresh, the middle-aged and jaded—both of whom are reflected in these poems.

A Long Probation. By Henry Gibbs. (Burns & Oates.)

This is a very readable story of a foundling boy, picked up by a travelling company of quacks and acrobats in Normandy. The boy finds many friends, one after another, and grows up to be a fine fellow, who does his duty and reaps his reward. He comes to London, where he meets more good friends, and at length the mystery of his parentage is solved. The author has some well-defined ideas on the subject of education as distinct from formal instruction, and we imagine that there are many amongst our readers who would find *A Long Probation* very congenial and satisfying.

Model Drawing on True Principles. By W. Mann. (T. Nelson & Sons.)

The author is convinced "that the whole superstructure of this element of art (model drawing) has been vitiated by an entirely false application of theoretical principles at the very outset of the study," and consequently his object is to "place what may be called the scientific study of art upon a better basis." The error against which this book is a protest lies in the practice of invariably regarding the picture plane as vertical, and consequently assuming the direction of view to be horizontal; whereas what is requisite is first to ascertain the direction of view, and then to place the picture plane at right angles to it.

"The Books of the Bible."—*The First Book of Kings.* With Introduction, Notes, and Maps. Edited by the Rev. W. O. Burrows, M.A. (Rivington, Percival, & Co.)

This is an English text with foot-notes, additional information being given in an appendix. The book will be found very useful by the student, as well as interesting to the general reader. It removes difficulties, and brings out the meaning of the text.

Gymnastic Competition and Display Exercises. (Bell & Sons.)

A selection of upwards of four hundred exercises set at open competitions and displays during the last twelve years, and voluntary exercises shown by prominent prize winners. A very serviceable handbook, with a hundred illustrations.

Wood Finishing, comprising Staining, Varnishing, and Polishing. Edited by Paul N. Hasluck. (Cassell).

A good little technical text-book, re-written from a series of articles which have appeared in *Work*. Mr. Hasluck, who edits both the paper and the book, has done his part well.

Australia: Its Geography, Resources, Commerce, and Chronicle of Discovery. By M. J. C. Meiklejohn. (A. M. Holden.)

An adequate treatment of the geography of the Antipodes, in eighty-six pages, with a clear map. Mr. Meiklejohn's intelligent attitude is manifest throughout, and cannot fail to arouse the interest of his readers.

Spring-Time: the Only Pretty Ring-Time. Edited by Charles Peters. (Religious Tract Society.)

A curious medley of prose and verse, with "May-time engravings," some pretty, some merely engravings. The buckram cover is handsome, and the book will find its admirers.

"Bell's Cathedral Series." *Oxford.* By the Rev. Percy Dearmer, M.A. (Bell & Sons.)

A match for its predecessors in the same very useful series. Mr. Dearmer has made good use of his materials, and the least that can be said for his volume is that every visitor to Oxford ought certainly to have it in his pocket. The quaint story of St. Frideswide is fully narrated.

We have also received the following publications:—

The Medical and Dental Registers for 1897. (Printed for the General Medical Council; Spottiswoode & Co.)

City and Guilds of London Institute Report, March, 1897. (Gresham College.)

The Shilling Atlas: sixty fully coloured maps and diagrams, with a complete index of names; *The Universal Atlas*: thirty-eight maps and diagrams; *The Threepenny Atlas*: thirty maps. (Marcus Ward & Co.)

A "Practical Series" of Memory Maps, with a "*Practical*" *Map Tester*—a metal outline for application to the pupil's copy. (Philip & Son.)—A decidedly useful invention.

Hoop Exercises: an English Musical Drill, by A. Alexander, F.R.G.S., with musical accompaniments by Kathleen Gibson. (Philip & Son.)

Plain Copy Books, for use in connexion with Philip's Writing Charts. (Philip & Son.)

The Head Teacher's Record and Mark Book, for Boys', Girls', Mixed, and Infant Schools, by J. W. Jarvis. (Jarrold & Sons.)

Précis Writing and Office Correspondence, by E. E. Whitfield, M.A. (Methuen's "Commercial Series") — full of useful models and suggestions.

Poems for the Schoolroom and the Scholar, selected by Robert S. Wood (*Review of Reviews* Office)—"Penny Poets" bound together, unfortunately with glaring advertisements of pills and soap sandwiched between the verses. "A thing of beauty is a joy for ever" faces "The Ointment is a real Boon."

A Key to Dr. Green's Brief Introduction to New Testament Greek. (Religious Tract Society.)

From the Religious Tract Society we have the first volume of *Sunday Hours*, a magazine of simple reading and pictures for simple readers. It is on the old lines, and offers no mark for criticism.—*Odd* is a good little story from the same publishers, very suitable for a present to children brought up on quiet and devotional ideas.—In the same parcel we have *Hooks and Eyes, or Little Helps to Little Folks*, a collection of short tales by the Rev. F. Langbridge.

Dorothy Close: a Story for Girls, by Mary T. Robertson (Burns & Oates)—an affecting tale of girlish friendship.

Amongst *Readers* we have the "Palmerston" (Blackie & Son), Books I.–IV., fresh and interesting, with attractive little pictures; the "Royal Windsor History" (Nelson & Sons), Books IV. and V., being stories and biographies from British history; "Science Ladders," *Flowering Plants*, by Mrs. Arthur Bell (Philip & Son), with fifty-three illustrations; Murché's "Domestic Science Readers," Book VI. (Macmillan).

From Messrs. Moffatt & Paige we have a large handsome *Colour Chart*, with a striking arrangement of primary and other colours; and a handbook on the *Theory of Colour* accompanies and explains it.

The People's Life of their Queen, by the Rev. E. J. Hardy, M.A. (Cassell & Co.)—a really simple and interesting story.

How to Sing at Sight from the Staff, by John Taylor (Philip & Son)—with an introduction by William H. Cummings.

Artistic Fruit Studies (Philip & Son)—twelve outlines for drawing in coloured chalks.

Standard Sentence Exercises for Students of Pitman's Shorthand. (Pitman & Sons.)

LITERARY GOSSIP.

The last of the preliminary lists of names for the "Dictionary of National Biography" has now been issued by Mr. Sidney Lee. Thus the *annus mirabilis* brings us literally within measurable distance of the end of this *opus mirabile*.

We note that Dr. Findlay has an article in the June number of the *Educational Review* (U.S.A.) on "The Scope of the Science of Education."

Mr. C. H. W. Johns, of Queens' College, Cambridge, has prepared an edition of the cuneiform texts of the Assyrian "Contract" tablets preserved in the British Museum. These documents are over eight hundred in number, and the greater part of them were found on the site of the Royal Library at Nineveh.

The general plan of work of the Pestalozzi Society includes readings, papers, discussions, and the translation of certain of Pestalozzi's works that have not yet appeared in English, such as the "Swan Song," "My Experiences," and portions of "The Course of Nature in the Development of the Human Race," &c. Papers read before the Society are the property of the readers, and will in no case be published without the consent of the authors. The aim of the Society being practical and definite, it is hoped that the work immediately in view will be completed in about three years.

The programme for 1897 is as follows:—June 14, "How Gertrude Teaches," Letter I., pages 9–42 (E. Cooke); July 12, "First Letter from Stanz" (J. Russell)—this Letter will be found in Quick's "Educational Reformers," pages 318–333; October 11, "The Method," appendix to "How Gertrude Teaches," pages 199–211 (E. Cooke); November 8, "Inquiry into the Course of Nature in the Development of the Human Race," published 1797 (Mme. A. E. de Leeuw); December 13, "How Gertrude Teaches," Letters II.–V., pages 42–83 (E. Cooke).

In 1898, readings from "How Gertrude Teaches" will be continued. It is hoped that there will also be papers on Pestalozzi's relation to Kant and Fichte, Pestalozzi's Psychology, Herbart's Criticism, Wordsworth's Views on Education compared with those of Pestalozzi, The relation of Froebel and Diesterweg to Pestalozzi, The Extension and Application of the Elementary Means to clear Ideas—Number—Form, Pestalozzi in this Country, Bibliography, &c.

A TESTIMONIAL TO MR. W. J. C. MILLER.

Mr. Miller's many friends will have heard with great regret that he has been compelled by illness, and by the absolute necessity of rest, to bring to a close his long association with the special feature of "Mathematics" in the *Educational Times*. At the same time he resigns his post as Registrar of the General Medical Council. Mr. Miller's mathematical work in our columns, which was to him, in the best sense, a labour of love, has been carried on without intermission for a period of about forty years.

Some of his friends and contributors think that this is a fitting occasion for recognising the value of his services, and presenting him with a small token of esteem. A watch, bearing a suitable inscription, with a purse of gold, would, it is believed, be an acceptable gift, and this is the form the testimonial will take. A fund is being raised for the purpose, and the Rev. Robert Harley, M.A., F.R.S., Rosslyn, Westbourne Road, Forest Hill, S.E., has undertaken the office of Treasurer. Any contributions sent to him will be at once acknowledged. The Hon. Secretary of the Fund is Mr. Geo. S. Carr, 4 Ladbroke Crescent, W.

Numerous, rather than large, subscriptions are desired, the object being to show Mr. Miller how widely his work is appreciated. More than twenty years ago the late Professor W. K. Clifford testified to the "very great ability, tact, and energy" with which Mr. Miller had "conducted the mathematical part of the *Educational Times*, which portion," he said, "notwithstanding its unpretending shape, has done more (I believe) to suggest and encourage original research than any other European periodical." In the same letter he speaks of himself as "having been Mr. Miller's pupil, through the medium of the *Educational Times*, for the last twelve years." Other mathematicians, more recently, have borne similar testimony, acknowledging their personal indebtedness to Mr. Miller, especially in having inspired and directed their early efforts. Many of his correspondents, including some men of the highest eminence, such as Clifford, Cockle, Cayley, and Sylvester, have passed away, but a goodly number remain, and judging from the response already made, there is reason to anticipate a gratifying result.

The following subscriptions have been already received:—

	£.	s.	d.
E. M. Dillon, LL.D.	1	1	0
Prof. G. C. Foster, F.R.S.	0	10	6
Rev. G. Salmon, D.D., F.R.S.	1	1	0
D. Biddle, M.R.C.S.	1	1	0
Prof. A. R. Forsyth, Sc.D., F.R.S.	1	1	0
Rev. Robert Harley, F.R.S. (*Hon. Treasurer*)	1	1	0
C. R. Hodgson, B.A.	1	1	0
Geo. S. Carr, M.A. (*Hon. Secretary*)	0	10	6
T. T. Hodgson, B.A.	1	1	0
Sir Chas. L. Peel, K.C.B.	1	1	0
George Andrew Spottiswoode	1	1	0
Henry Gervis, M.D., F.R.C.P.	1	1	0
Robert Rawson, J.P.	1	1	0
Right Hon. Sir M. E. Grant Duff, G.C.S.I., F.R.S.	1	1	0
Rev. Canon Price, D.D., F.R.S.	1	1	0
Robert Tucker, M.A.	1	1	0
Prof. E. B. Elliott, F.R.S.	1	1	0
Rev. S. Haughton, M.D., F.R.S.	1	1	0
John Hopkinson, D.Sc., F.R.S.	1	1	0
Rev. T. R. Terry, M.A.	1	1	0
Joseph Larmor, D.Sc., F.R.S.	0	10	6
Samuel Roberts, F.R.S.	1	1	0
Right Hon. Lord Kelvin, G.C.V.O., F.R.S.	1	1	0
Right Hon. Lord Lister, D.C.L., F.R.S.	1	1	0
H. Weston Eve, M.A.	1	1	0
Prof. Crofton, F.R.S.	1	1	0
Rev. W. A. Whitworth, M.A.	0	10	6
John Watkinson	1	1	0
Rev. Robert Bruce, D.D.	0	10	0
Edward Watkinson	0	10	6
D. Johnston	0	10	6
Ernest Woodhead, M.A.	0	5	0
Major Macmahon, R.A., F.R.S.	0	10	6
J. J. Walker, F.R.S.	1	1	0
Prof. W. H. H. Hudson, M.A.	1	1	0
Hugh MacColl, B.A.	0	10	6
Sir Robert S. Ball, LL.D., F.R.S.	1	1	0
Morgan Brierley	0	10	6
H. T. Gerrans, M.A.	0	10	6
C. Leudesdorf, M.A.	0	10	6
J. W. Russell, M.A.	0	10	6
J. E. Campbell, M.A.	0	10	0
A. W. Cave, M.A.	0	5	0
Sir Henry W. Acland, Bart., K.C.B., M.D.	1	1	0

MATHEMATICS.

13466. (Professor M. J. M. Hill, M.A., D.Sc., F.R.S.)—Give proofs of (1) the 9th; (2) the 16th, with the 14th as corollary; (3) the 22nd; (4) the 23rd propositions of the Fifth Book of Euclid, based on Euclid's test for equal ratios, to replace his demonstrations, which are based on his test for unequal ratios; and hence show that all the propositions in the Sixth Book of Euclid can be proved without any reference direct or indirect to his test for unequal ratios.

Solution by the Proposer.

(*Euc.* v. 9) Part 1.—If $A : C = B : C$, then $A = B$.

Suppose, if possible, that A and B are unequal; then one of them is greater than the other. Let A be greater than B; then it is possible to find an integer n so that a multiple of C lies between nA and nB.

Suppose $nA > tC > nB$. Then $nA > tC$, $nB < tC$. But, if $A : C = B : C$, and $nA > tC$, then must $nB > tC$. But $nB < tC$. Hence A and B are not unequal. Therefore $A = B$.

Part 2.—If $C : A = C : B$, then $A = B$.

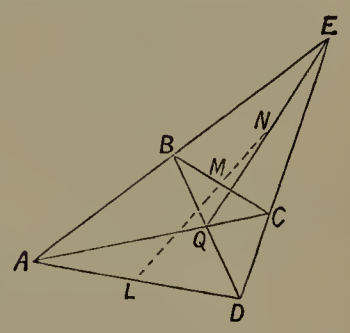
As in Part 1, it may be proved that, if A be greater than B, integers n and t can be found such that $tC < nA$, whilst $tC > nB$.

Now, if $C : A = C : B$, and $tC < nA$, then $tC < nB$. But $tC > nB$. Hence A is not greater than B. In like manner, A is not less than B. Therefore $A = B$.

[The rest in Volume.]

13478. (Morgan Brierley.)—ABCD is a given quadrilateral with the opposite sides AB, DC produced to meet in E; draw EQ to the intersection of the diagonals AC, BD. If a line LM be drawn through the middle of the sides AD, BC, it will pass through the middle N of EQ.

Solution by E. P. Barrett, B.A.; H. W. Curjel, M.A.; *and others.*



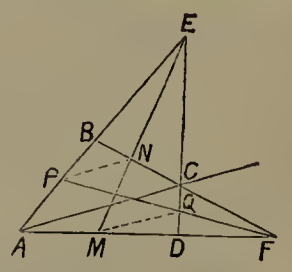
Consider the quadrilateral EAQD (re-entrant angle at Q).

The three diagonals are AD, BC, and EQ.

Therefore (Lachlan, *Modern Geometry*, Ex. 1, p. 23) L, M, and N, the middle points of these, are collinear.

13423. (H. W. Curjel, M.A.)—If the opposite sides AB, DC of a quadrilateral meet in E, and AD, BC in F, and any straight lines EMN, PFQ are drawn through E and F, cutting AD, BC and AB, DC in M, N and P, Q, show that PN, MQ cut on AC, and PM, NQ on BD.

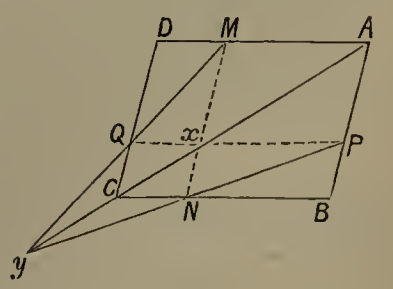
Solution (1) *by* W. C. Stanham, *and others*; (2) *by* Professor A. Droz-Farny



(1) Let N_1, N_2 denote two other positions of N, and M_1, M_2 corresponding positions of M, PQ remaining unaltered in position. Then

$$E(FNN_1N_2) = E(FMM_1M_2);$$
$$\therefore\ P(FNN_1N_2) = Q(FMM_1M_2).$$

Since these equal pencils have a common ray (PQ), the intersections of corresponding rays are collinear. And, when ENM coincides with EBA and ECD, it is clear that A and C are points on the line of collinearity, which must therefore be AC. Hence PN and QM cut on AC, and similarly PM and NQ on BD.



(2) Effectuons une projection centrale de la figure de manierè à ce que EF tombe à l'infini; la question devient la suivante:—Soit x un point pris dans l'intérieur d'un parallélogramme ABCD. La parallèle à AB menée par x coupe les côtés AD et BC en M et N et la parallèle par le même point à AD coupe les côtés AB et CD en P et Q. Les diagonales qui ne passent pas par x des quatre petits parallélogrammes ainsi obtenus se croisent par paires sur les diagonales AC et BD du parallélogramme donné. En effet supposons que MQ et PN rencontrent AC en deux points distincts y et y'. Dans les triangles ADC et ABC on aura en vertu du théorème de Ménélaus:

$$AM \,.\, DQ \,.\, yC = DM \,.\, CQ \,.\, yA, \quad BN \,.\, PA \,.\, y'C = CN \,.\, BP \,.\, y'A;$$

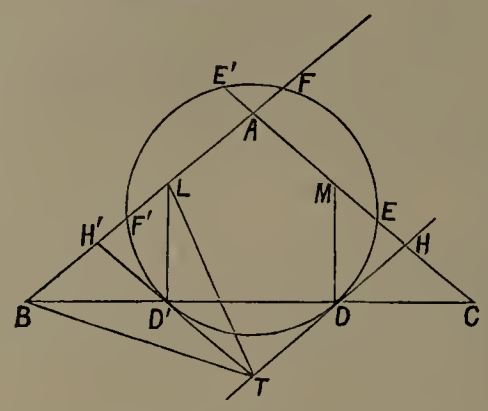
d'où, par division, $\quad yC : y'C = yA : y'A$;

donc les points y et y' coincident.

13388. (W. J. Greenstreet, M.A.)—A conic cuts the sides of a triangle ABC in D, D′; E, E′; F, F′, respectively. The tangents at

D, D′ meet AB, AC in K, K′; L is the fourth harmonic of B with respect to F, F′; M that of C with respect to E, E′. Show D′L, DM, KK′ are concurrent.

Solution by H. W. Curjel, M.A.



Project the points in which KK′ meets the conic into the circles.

Then DEE′FF′D′ becomes a circle such that the tangents at D and D′ are parallel to AB and AC.

Let these tangents cut AB, AC in H′, H and each other in T. Then TL is the polar of B. Therefore T(DD′, BL) is harmonic; therefore H′ is the middle point of BL.

Therefore

$H'L^2 = H'F \,.\, H'F' = H'D'^2$;

therefore $H'D' = H'L = H'B$; therefore $\angle BD'L$ is a right angle; similarly $\angle MDC$ is a right angle; therefore D′L, DM are parallel, *i.e.*, cut on KK′.

13402. (Professor C. Cochez.)—On donne deux axes rectangulaires Ox, Oy. Une parabole reste tangente à Oy en O et passe par un point A donné sur Ox, ayant pour abscisse $2a$. Trouver et construire (1) le lieu du point de contact d'une tangente à la parabole, parallèle à Ox; (2) l'enveloppe de la directrice de la parabole; (3) le lieu du foyer de la parabole; (4) le lieu du sommet de la même parabole.

Solution by Rev. J. Cullen, B.A.

Since tangent and normal are axes, the equation is of the form

$$(x+\lambda y)^2 + 2gx = 0,$$

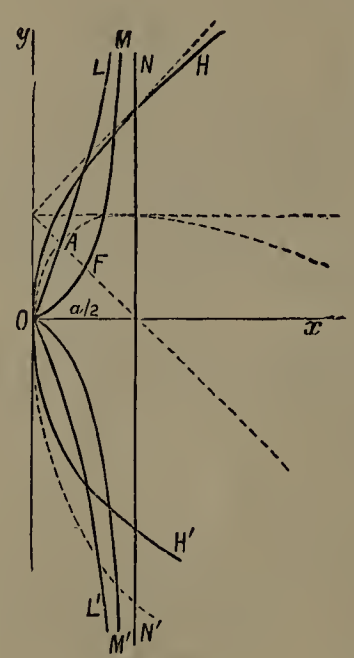
under the stated condition

$$4a^2 + 4ga = 0;$$

$$\therefore \quad (x+\lambda y)^2 - 2ax = 0 \quad \ldots\ldots\ldots (\alpha$$

With ordinary notation

$$A = 0, \quad B = -a^2, \quad C = 0,$$
$$F = -a\lambda, \quad G = a\lambda^2, \quad H = 0.$$



(1) The condition that $y-\beta = 0$ should touch (α) is $2\lambda\beta = a$; therefore $x = a/2$. Hence the required locus is the line NN′.

(2) The directrix is

$$Gx + Fy = (A+B)/2,$$

or

$$2\lambda^2 x - 2\lambda y + a = 0;$$

therefore envelope is

$$y^2 - 2ax = 0,$$

the parabola HOH′.

(3) The focus is determined by

$$Fx + Gy = H,$$

and

$$Gx - Fy = (A-B)/2,$$

or $\quad x = a/2\,(1+\lambda^2), \quad y = a/2\lambda\,(1+\lambda^2), \quad$ *i.e.*, $2\,(x^2+y^2)\,x = ay^2$,

the cissoid MOM′.

[The rest in Volume.]

13284. (Professor Dickson.)—Find the general term in the series 1, 3, 10, 35, 126, 462, 1716, 6435, 24310, ... which plays a remarkable part in some recent theorems in the theory of regular polygons.

Solution by R. W. D. Christie.

We see at once that any term $a_n \times 3\,[(n-2)/n] = a_{n+1}$; therefore the nth term of the series is the product of $n-1$ terms of the series

$$\frac{4n-2}{2}\ \frac{4n-6}{3}\ \frac{4n-10}{4}\ \frac{4n-14}{5}, \text{ \&c.}$$

Thus the nth term is $\dfrac{2^{n-1}\,.\,2n-1\,.\,2n-3\,.\,2n-5\,\ldots\,3}{n\,!}$.

Ex. gr., the 7th term is $\dfrac{2^6.13.11.9.7.5.3}{5040} = 1716$.

13446. (Editor.)—Prove that

$$4\left\{(a^2-b^2)cd + (c^2-d^2)ab\right\}^2 + \left\{(a^2-b^2)(c^2-d^2) - 4abcd\right\}^2 = (a^2+b^2)^2(c^2+d^2)^2.$$

Solution by Rev. T. Wiggins, B.A.; L. E. Reay, B.A.; *and many others.*

$$\begin{aligned}\text{Exp.} &= 4\left\{a^2cd - b^2cd + c^2ab - d^2ab\right\}^2 + (a^2c^2 - b^2c^2 - a^2d^2 + b^2d^2 - 4abcd)^2\\ &= 4\left\{(ac-bd)(ad+bc)\right\}^2 + \left\{(ac-bd)^2 - (ad+bc)^2\right\}^2\\ &= \left\{(ac-bd)^2 + (ad+bc)^2\right\}^2 = (a^2c^2 + b^2d^2 + b^2c^2 + a^2d^2)^2\\ &= (a^2+b^2)^2(c^2+d^2)^2.\end{aligned}$$

[Mr. Davis and Mr. Cullen solve the Question as follows:—

Put $\quad a^2 = (a^2+b^2)\cos^2\theta \quad$ and $\quad c^2 = (c^2+d^2)\cos^2\phi$;

then transform algebraically the relation

$$\sin^2 2\,(\theta+\phi) + \cos^2 2\,(\theta+\phi) = 1.]$$

13430. (Professor Sylvester.)—If the digits r in number of any integer N read from left to right be multiplied repeatedly by the first r terms of the recurring series 1, 4, 3, −1, −4, −3, 1, 4, 3, −1, −4, −3, show that, if the sum of these products be divisible by 13, so N will be, and not otherwise.

Solution by G. N. Bates.

By reducing $\frac{1}{13}$ to a decimal, the following congruences to mod 13 are seen to be true:—

$$10^{6n} \equiv 1; \quad 10^{6n+1} \equiv -3; \quad 10^{6n+2} \equiv -4; \quad 10^{6n+3} \equiv -1;$$
$$10^{6n+4} \equiv 3; \quad 10^{6n+5} \equiv 4.$$

Let N be a number having $(6n+1)$ digits. Then

$$a_r\left\{10^{r-1}-1\right\} + a_{r-1}\left\{10^{r-2}-4\right\} + \ldots \equiv 0, \quad \text{mod}\,(13),$$

i.e., $a_r a_{r-1} \ldots a_1$ is divisible by 13 if

$$a_r + 4a_{r-1} + 3a_{r-2} - a_{r-3} - \ldots$$

is, and not otherwise.

If N has not $(6n+1)$ digits, sufficient 0's can be added at the right-hand end to make it so, and these will not affect its divisibility by 13.

[Mr. Curjel solves the Question as follows:—

Since $10^3 \equiv -1$ and $10^6 \equiv 1$, mod 13, it will be sufficient to show that $a + 4b + 3c\,(=m)$ and $100a + 10b + c\,(=n)$ are neither or both divisible by 13, which is clear, since $(4m+n) = 13\,(8a+2b+c)$.]

13462. (Professor Crofton, F.R.S.)—Prove that $10^5 + 10$ is divisible by $9^3 + 1$.

Solution by Rev. T. Wiggins, B.A.; *and* Morgan Brierley.

$$\begin{aligned}\frac{10^5+10}{9^3+1} &= \frac{10^4+1}{9^2-9+1} = \frac{10^4+1}{10^2-3\times10+3}\\ &= 10^2+3\times10+6+\frac{9\times10-17}{10^2-3\times10+3}\\ &= 10^2+3\times10+6+\frac{10^2-10-17}{10^2-3\times10+3}\\ &= 10^2+3\times10+6+\frac{10^2-3\times10+3}{10^2-3\times10+3} = 10^2+3\times10+7.\end{aligned}$$

13468. (Professor Neuberg.) — On considère les quadriques qui passent par une conique donnée Σ et par deux points donnés A, B. Trouver le lieu du centre et le lieu des extrémités du diamètre qui passe par le centre de Σ.

Solution by Rev. J. Cullen, B.A.

Take the centre of Σ for the origin. Then the quadric is of the form

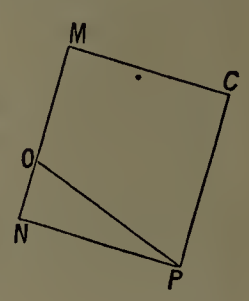
$$\Sigma + z\,(\lambda P_1 + \mu P_2 + P_3) = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1),$$

where P_1, P_2, and P_3 are planes depending on the positions of A and B.

[The rest in Volume.

13394. (H. Orfeur.)—Besides the circle, there is another curve possessing the property radius of curvature = radius vector. How may it be analytically described? Show that it is a particular involute of the involute of a circle.

Solution (1) *by* H. W. Curjel, M.A.; (2) *by* W. C. Stanham, *and* Rev. J. Cullen, B.A.



(1) If the radius of curvature = radius vector,

$$r\,(dr/dp) = r; \qquad \therefore \quad r = p + a \quad \ldots\ldots (1)$$

(this is a circle, if $a = 0$).

Let NP be the tangent at point P on the curve, and C the centre of curvature. Through the origin O draw NOM parallel to PC, and through C draw CM parallel to PN.

Then $\quad OM = CP - ON = r - p = a$;

therefore CM is the tangent at M to a circle, centre O. Therefore the curve (P) is an involute of an involute of a circle, such that, when the centre of curvature C of (P) at P lies on the circle, P bisects OC.

The equation (1) may be written

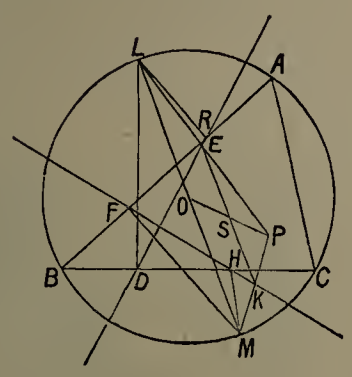
$$d\theta = \frac{dr}{(2ar-a^2)^{\frac12}} - \frac{a\,dr}{r\,(2ar-a^2)^{\frac12}};$$

$$\therefore \quad \theta = \frac{(2ar-a^2)^{\frac12}}{a} - 2\tan^{-1}\frac{(2ar-a^2)^{\frac12}}{a},$$

if $\theta = 0$, when $r = a/2$. [The rest in Volume.]

13484. (W. E. Jeffares, B.A.)—If ABC is a triangle, and O its circumcentre, through O draw any diameter LOM intersecting the circumcircle in L and M; find the locus of the intersection of the Simson-lines corresponding to L and M.

Solution by W. S. Cooney, B.A.; *and the* Proposer.



If P be the orthocentre of ABC, then the Simson-lines DR and FH bisect PL and PM respectively at E and K. Therefore

$$EK = \tfrac{1}{2}LM = R,$$

and OP is bisected at S, the centre of nine-point circle. DR and HF intersect at right angles, for

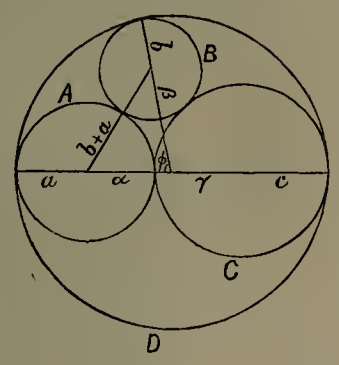
$$\angle KFM = CBM = BLD = BRD.$$

Therefore locus of intersection is nine-point circle (centre S).

13409. (Professor Sarkar.)—Three circles, touching each other externally, are all touched by a fourth circle including them all. If a, b, c be the radii of the three internal circles, and α, β, γ the distances of their centres from that of the external circle, respectively, prove that

$$2(\beta\gamma/bc + \gamma\alpha/ca + \alpha\beta/ab) = 4 + \alpha^2/a^2 + \beta^2/b^2 + \gamma^2/c^2.$$

Solution by Rev. J. Cullen, B.A.; *and* W. E. Jeffares, B.A.



Let R be the radius of the external circle D. Then $a+\alpha = b+\beta = c+\gamma = R$.

The locus of the centre of a circle touching A externally and D internally is

$$(b+a)^2 = r^2+\alpha^2-2r\alpha\cos\phi,$$

or $$(2a-r+\alpha)^2 = r^2+\alpha^2-2r\alpha\cos\phi.$$

Therefore $a(R-r) = \alpha r\sin^2\tfrac{1}{2}\phi$;

putting $r = \beta$, we have

$$\sin^2\tfrac{1}{2}\phi_1 = ab/\alpha\beta.$$

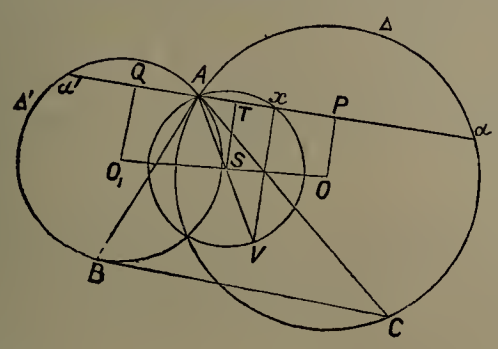
Similarly, $$\sin^2\tfrac{1}{2}\phi_2 = ac/\alpha\gamma,$$

and $$\sin^2(\phi_2-\phi_1)/2 = bc/\beta\gamma.$$

The elimination of ϕ_1 and ϕ_2 between these equations gives the above relation, ϕ_1 and ϕ_2 being the angles between α and β, α and γ.

13464. (Professor A. Droz-Farny.)—Dans un triangle ABC on considère la circonférence Δ tangente en A à AB et qui passe par C et la circonférence Δ' tangente en A à AC et qui passe par B. Une transversale variable menée par A coupe Δ en α et Δ' en α'. Quel est le lieu du point milieu de $\alpha\alpha'$?

Solution by W. E. Jeffares, B.A.; H. W. Curjel, M.A.; *and others.*



Let O, O_1 be the centres of Δ, Δ', and S the middle point of OO_1; O, O_1, S are fixed points. From O, O_1, and S let fall perpendiculars OP, O_1Q, and ST on any transversal $\alpha\alpha'$ through A. Now T is the middle point of PQ; therefore

$$PA - AQ = 2AT,$$

and $$\alpha A - \alpha' Q = 4AT.$$

Join AS; produce AS to V so that SV = SA; and from V let fall Vx perpendicular to $\alpha\alpha'$. Since

$$AV = 2AS, \quad \therefore\ Ax = 2AT, \quad \text{and} \quad \alpha A - \alpha' Q = 2Ax;$$

therefore x is the middle point of $\alpha\alpha'$. Now, AV is a fixed line and AxV a right angle, the locus of x is a circle on AV as diameter. Hence, to find the locus, we have only to bisect OO_1, the line joining the centres in S. Join SA; and, with centre S, radius SA, describe the circle.

13424. (R. F. Davis, M.A.)—(1) If E be the centre of mean position for multiples l, m, n, at A, B, C, respectively, and ET the tangent to the circumcircle of ABC, prove that

$$lPA^2 + mPB^2 + nPC^2 = (l+m+n)(PE^2 - ET^2).$$

Deduce that the equation $lPA^2 + \ldots + \ldots = 0$ represents generally a circle cutting orthogonally the circumcircle, the trilinear coordinates of whose centre are $(l/a,\ m/b,\ n/c)$. When $l+m+n = 0$ the above locus degenerates into a diameter of the circum-circle; as, for example,

$$(b^2-c^2)PA^2 + \ldots + \ldots = 0$$

represents the join of the circum- and ortho-centres upon which lie, *inter alia*, the special points $PA^2 : PB^2 : PC^2 = a^2 : b^2 : c^2$, or cot A : cot B : cot C.

(2) If ABC be a triangle, prove that the locus represented by

$$a^2(b^2-c^2)PA^2 + b^2(c^2-a^2)PB^2 + c^2(a^2-b^2)PC^2 = 0$$

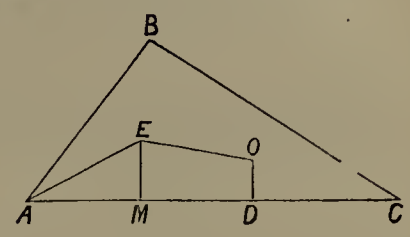
is the join of the circumcentre and the symmedian point ("diamètre de Brocard"); and upon it lie (*inter alia*) the point-pairs defined by

$$PA : PB : PC = \operatorname{cosec} A : \operatorname{cosec} B : \operatorname{cosec} C \text{ (equilateral pedal triangles)},$$

or $$= \cot A : \cot B : \cot C$$

or $$= (a^2 - b^2c^2/a^2) : \ldots : \ldots \text{ \&c., \&c.}$$

Solution by G. N. Bates, B.A.; *and* W. E. Jeffares, B.A.



E is the point

$$\alpha = \frac{2\Delta}{l+m+n}\cdot\frac{l}{a}, \text{ \&c.}$$

$$AE^2 = \frac{\beta^2+\gamma^2+2\beta\gamma\cos A}{\sin^2 A}$$

$$= \{1/(l+m+n)^2\}\{c^2m^2+b^2n^2+2bcmn\cos A\};$$

$$\therefore\ \Sigma l AE^2 = \{1/(l+m+n)\}\,\Sigma mna^2,$$

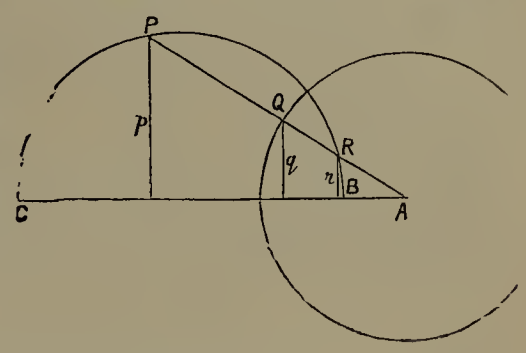
$$OE^2 = AO^2 + AE^2 - b\,(AE^2 - EM^2)^{\frac{1}{2}} + 2R\cos B\,.\,EM;$$

$$\therefore\ (l+m+n)^2(R^2 - OE^2) = \Sigma mna^2 = (l+m+n)\,\Sigma l AE^2.$$

[The rest in Volume.]

13373. (P. W. Flood.)—From a given point in the diameter produced of a given semicircle, draw a line cutting the circumference in two points such that, if perpendiculars be drawn from them on the diameter, their rectangle will be given.

Solution by H. W. Curjel, M.A.; Professor A. Droz-Farny; *and others.*



Let A be the fixed point on the diameter BC of the ⊙PRBC. Draw a circle with centre A cutting ⊙PRBC orthogonally, and on that circle find Q such that the square of its distance q from BC = the given rectangle. Let AQ cut ⊙PRBC in P and R. Then

$$AR\,.\,AP = AQ^2;$$

$$\therefore\ pr = q^2,$$

where p and r are the distances of P and R from BC.

QUESTIONS FOR SOLUTION.

13518. (The late Professor Sylvester.—Jan. 1897.)—If N is any even number, and λ, μ, ν, ... ω are all the prime numbers greater than $\frac{1}{4}$N and less than $\frac{3}{4}$N (excluding $\frac{1}{2}$N when it is a prime), show that the number of ways of composing N with two unequal primes is the coefficient of x^N in

$$\left(\frac{1}{1-x^\lambda}+\frac{1}{1-x^\mu}+\frac{1}{1-x^\nu}+\ldots+\frac{1}{1-x^\omega}\right)^r$$

divided by $r(r-1)\theta^{r-2}$, when r is an integer not less than 2, and θ is the number of the primes λ, μ, ν, ... ω.

13519. (Professor Crofton, F.R.S.)—Prove that—

$$f(d/dx + d/dy)\,e^{xy} = e^{xy}\ \exp.\ (d/ds)^2 f(s),$$

where $s = x+y$.

13520. (Professor Neuberg.)—On donne le système d'équations—

$$\sin^2 x - \sin^2(y-z) = a, \quad \sin^2 y - \sin^2(z-x) = b, \quad \sin^2 z - \sin^2(x-y) = c,$$

calculer $\sin(x+y+z)$.

13521. (G. Richardson, M.A.)—The late Professor Wolstenholme, M.A., Sc.D., shortly before his death, handed to me a scrap of paper, on which he had hastily scratched the following equation in tetrahedra, saying he had proved it—

$$\frac{(a+x)^2+u'}{\sin^2\frac{1}{2}(A+x)} = \frac{(a-x)^2+u'}{\sin^2\frac{1}{2}(A-x)} = \frac{(b+y)^2+u'}{\sin^2\frac{1}{2}(B+y)} = \ldots = u,$$

where $$u = 16\Delta_0\Delta_1\Delta_2\Delta_3/9V^2,$$

Δ_0, Δ_1, Δ_2, Δ_3 being the areas of the triangular faces, and V the volume of the tetrahedron, and

$$u' = (\Delta_0+\Delta_1+\Delta_2+\Delta_3)(\Delta_0+\Delta_1-\Delta_2-\Delta_3)(\Delta_0+\Delta_2-\Delta_1-\Delta_3)(\Delta_0+\Delta_3-\Delta_1-\Delta_2)/9V^2.$$

[It would appear that, in the numerators of the equation of which a proof is now required, a, b, c are the lengths of three conterminous edges, and x, y, z of the respectively opposite edges, whilst, in the denominators, A, B, C, x, y, z are the dihedral angles respectively opposite to those edges.]

13522. (Professor H. Langhorne Orchard, M.A., B.Sc.)—Find the product of the series $-1+3+6+10+15+21+\ldots$ to n terms, by the series—$1+6+18+40+75+126+\ldots$ to n terms; and show that n, $(n+1)$, and $(n+2)$ are factors of the product.

13523. (Professor SANJÁNA, M.A.)—Prove that

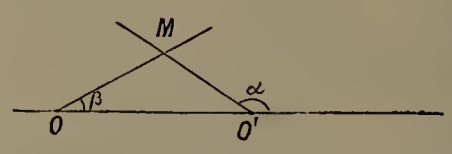
$$\frac{c_0}{m+n}-\frac{c_1}{m+3n}+\frac{c_2}{m+5n}-\ldots+\frac{(-1)^l c_l}{m+(2l+1)n}$$
$$=\frac{2.4.6\ldots(2l-2).2l.n^l}{(m+n)(m+3n)(m+5n)\ldots\{m+(2l+1)n\}},$$

where l, m, n, are positive integers, and $c_0, c_1, c_2 \ldots c_l$ the coefficients in the expansion of $(1+x)^l$. Also deduce the identity

$$\frac{5}{9}-4.\frac{5}{19}+6.\frac{5}{29}-4.\frac{5}{39}+\frac{5}{49}=\frac{5.10.20.30.40}{9.19.29.39.49}.$$

13524. (Professor C. COCHEZ.)—On donne deux points O, O′. Lieu de M tels OM et O′M tournant autour de O et de O′ on ait

$$\alpha=\tfrac{3}{2}\beta.$$



13525. (Professor RAMASWAMI AIYAR, M.A.)—Let $f(x)$ be a trigonometrical function of x which can be expressed as a rational integral algebraical function of $\sin x$ and $\cos x$, whose degree (in $\sin x$ and $\cos x$ together) is less than n. Show that

$$\frac{f(x)}{\sin nx-\sin\theta}\equiv\frac{1}{2n\cos\theta}\sum_{\kappa=1}^{\kappa=2n}\left\{(-1)^\kappa f(\lambda)\cot\tfrac{1}{2}(x-\lambda)\right\};$$

where $\lambda=1/n\left[\kappa\pi+(-1)^\kappa\theta\right]$.

[This identity may be used to integrate the left-hand side; and is generalized from a result due to M. HERMITE given in Dr. HOBSON's *Trigonometry*, about the end of the book.]

13526. (Professor W. BOOTH.)—If α, β, γ, δ be the roots of the quartic $ax^4+4bx^3+6cx^2+4dx+e=0$, and if all the expressions of the form $(2\alpha-\beta-\gamma)$ be taken and multiplied together, calculate the value of this product in terms of H, I, J, and G, the well-known functions of the differences of the roots.

13527. (Professor G. B. MATHEWS).—If the ellipse $x^2/a^2+y^2/b^2=1$ completely encloses the ellipse $x^2/a'^2+y^2/b'^2=1$ of less eccentricity, the condition that poristic polygons of n sides may exist, circumscribed to the second conic and inscribed in the first, is $cn^{-1}(a'/a)=2s\mathrm{K}/n$, where s is some integer, and the modulus k is given by

$$k^2=(a^2b'^2-a'^2b^2)/\left\{(a^2-a'^2)b'^2\right\}.$$

13528. (Professor R. W. CHAPMAN, M.A., B.C.E.).—Two equal parabolas, A and B, are placed with their vertices together and their axes in the same straight line, but in opposite directions. If A rolls upon B, prove geometrically, (*a*) that the focus of A traces out the directrix of B, (*b*) that the vertex of A traces out a cissoid, (*c*) that the point of intersection of the axis and directrix of A traces out the curve $r=2a\cot\frac{1}{2}\theta$.

13529. (EDITOR.)—Construct a conic which shall touch twice with each of two circles, and also touch a straight line which cuts them both.

13530. (D. BIDDLE.)—In the *Standard* of April 30th, 1897, a correspondent, writing on the Aldersgate Explosion, says: "Gases under confinement exert an equal pressure in all directions, and the gases released by explosion of high explosives are subject to this law like other gases." This commends itself to our reason. But he goes on to say that, when dynamite or gun-cotton is placed in the breech of a gun and exploded, the breech is shattered; and this because "the gases are evolved so rapidly that they have no time to seek the path of least resistance, but fly in every direction." Point out the fallacy in this explanation mathematically.

13531. (PHILIPPA G. FAWCETT.)—Prove the following rule for finding the power of the lens equivalent to n thin lenses arranged along an axis:—Take any combination out of the n lenses, and form the continued product of the powers and the distances between consecutive lenses of the combination as they stand; the sum of the products so formed for all possible combinations out of the n lenses is equal to the power of the equivalent lens. (If the combination consists of one lens only, the corresponding term is its power simply.) Extend the rule to any optical instrument symmetrical about an axis.

13532. (H. W. CURJEL, M.A.)—Given the hypotenuse of a right-angled triangle and the length of the line bisecting the right angle, construct the triangle by means of ruler and compasses only.

13533. (R. W. D. CHRISTIE.)—Prove that $a^2-b^2+4ab-1$ equals two integral factors, one of which is any odd prime, and the other a function of that prime, where a and b are also integers and b a function of a.

13534. (J. WOODGATE WEST, M.A.)—Given two circles, their radii, and a point on the circumference of one, determine, geometrically, the nearest point on the circumference of the other through which a circle, passing through the given point and orthogonal to both the given circles, must pass, employing not more than five lines in your construction. Also show that the radius of the least circle orthogonal to both the given circles $=\sqrt{\{-S(S-R)(S-R_1)(S-d)\}}/8d$, where d is the distance between their centres, and S half the sum of R, R_1, d.

13535. (G. HALE PUCKLE, M.A.).—Find the real directrices, with the corresponding foci and eccentricity, of the conic

$$4x^2+24xy+11y^2-4x-2y-9=0;$$

also find the axes on which (1) the real, and (2) the imaginary, foci lie.

13536. (Rev. W. A WHITWORTH, M.A.).—If two points be taken at random on the area of a circle, their average distance apart is $\frac{3}{16}\pi$ of the radius.

13537. (W. E. JEFFARES, B.A.)—If $\tan(\psi-\phi)=\cos\alpha\tan\phi$, show that $(1-\sin^2\alpha\sin^2\phi)(1-\tan^4\frac{1}{2}\alpha\sin^2\psi)$ is a perfect square and independent of ψ.

13538. (P. W. FLOOD.)—Given the vertical angle of a triangle, to construct it when the rectangle of the diameters of inscribed and circumscribed circles is a *maximum*.

13539. (MORGAN BRIERLEY.)—Given the vertical angle, the sum of the sides including it, and the radius of the inscribed circle, to construct the triangle.

13540. (C. BICKERDIKE.)—A point B moves in a right line, and A is a fixed point; the line BC passes through a fixed point D; the angle BAC is constant. Required the locus of C.

13541. (CHARLES MITCHELL.)—The base of a triangle is 2 inches in length, the difference between the angles adjacent to the base is 40°. Find, geometrically, the locus of the vertex of the triangle. N.B.—A locus found by trial is not sufficient.

13542. (Rev. J. CULLEN, B.A.)—In a triangle ABC, being given BΩ in magnitude and position, also the direction of the base BC, prove that the locus of each of the following points is a circle:—(1) the vertex, (2) the circumcentre, (3) the symmedian point, (4) the other BROCARD-point, (5) the centre of the BROCARD-ellipse, (6) the centre of the LEMOINE-circle.

13543. (Rev. T. ROACH, M.A.).—It is shown in Quest. 13173 that, if a circle touches AB in A and passes through the incentre I, cutting AC in H and K, then IC bisects the angle HIK. Prove that, if B is greater than C, the circle does not cut AC, and that, if B is less than C, then $\cos\mathrm{HIK}=1+\cos\mathrm{C}-\cos\mathrm{B}$.

13544. (J. MACLEOD, M.A.)—Two circles whose centres are C, D respectively intersect in A, B, CB being greater than DB. From point G in AB produced the tangent GF is drawn to the larger circle, and tangent GE on the opposite side to the smaller. Prove that ∠FCB is greater than, equal to, or less than ∠BDE according as FE cuts GA between B and A, in B, or between B and G.

13545. (R. CHARTRES.)—A person can buy for 10*s*. an umbrella that will last him two years, or for 19*s*. one that will last him three years. Supposing the person to live for nearly six years, find at what per cent. the difference in the present value of the umbrellas will be (1) a maximum, (2) a minimum, and show (3) that the minimum is not the least value of the difference.

13546. (R. F. DAVIS, M.A.)—Prove that the difference between the cubes of two consecutive positive integers terminates in one of the digits 1, 7, 9.

13547. (R. KNOWLES, B.A.)—ABCD is a quadrilateral inscribed in a circle centre O; the diagonals AC and BD intersect in G; TN, T′N′ are the perpendiculars from T, T′, the poles of AD and BC on GO; prove that TN : T′N′ = TG : T′G.

NOTICE TO CORRESPONDENTS.

Owing to the MATHEMATICAL EDITOR's illness, it is requested that, till further notice, all Mathematical communications should be sent to

D. BIDDLE, Charlton Lodge, Kingston-on-Thames.

NOTICE.—Vol. LXVI. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, FRANCIS HODGSON, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.*; *to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

Thursday, May 13*th*, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Ten members present.

The Chairman read a letter from Mr. J. H. Enthoven thanking the Society for the letter of condolence (with the relatives of the late Prof. Sylvester) which had been sent to him by the President.

The following communications were made:—

"On Cubic Curves as connected with certain Triangles in Perspective," S. Roberts, F.R.S.

"Determination of certain Primes," F. W. Lawrence, B.A.

"An Analogue of Anharmonic Ratio," J. Brill, M.A.

"An Essay on the Geometrical Calculus" (*continuation*), Herr E. Lasker.

"On the Partition of Numbers," G. B. Mathews, M.A.

"Note on Synthetic Geometry," W. Esson, F.R.S.

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THE

EDUCATIONAL TIMES,

AND

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Vol. L.] New Series, No. 435. JULY 1, 1897. { *Price to Non-Members, 6d.* *By post, 7d.*

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Resolutions of the College of Preceptors (1893–6) in view of the Proposed Reorganization of Secondary Education.

1. That early legislation for the organization of secondary education is necessary, more especially in view of the increasing tendency of the authorities engaged in providing primary education to occupy the legitimate field of secondary education, and the consequent overlapping of educational authorities and agencies.

2. That, whatever form the legislative organization of secondary education may eventually take, it is very desirable that there should, without delay, be introduced into Parliament a measure, or measures, (i.) for delimiting primary education, and (ii.) for providing for the registration of persons qualified to teach in secondary schools.

3. That it is desirable, for the purpose of registering such teachers, to create at once an Educational Council, including a large professional element, to which, from time to time, other functions in connexion with secondary education should be entrusted.

4. That provision should be made for the adequate representation of the teaching profession on all bodies having control over secondary education.

5. That in any scheme for the organization of secondary education it is both in accordance with justice and for the public interest that all existing agencies for the supply of such education should be utilized, provided they comply with all reasonable conditions of efficiency.

6. That, both in estimating the needs of any district in respect of secondary education and in allocating public money to the purposes of secondary education, efficient private and proprietary schools should be placed on the same footing as public schools.

7. That the setting up of schools established and maintained by public money in the neighbourhood of existing efficient schools (whether endowed, proprietary, or private) which are entirely or partially self-supporting, at such low fees as to undersell them, would tend rather to impair the efficiency of good schools than to eliminate the inefficient.

8. That the efficiency of secondary schools should be certified by educational experts, or by examination or inspection by recognized public bodies, and should not be decided by persons inexperienced in secondary education.

9. That no scheme for the organization of secondary education would be complete which does not recognize the necessity of providing for the professional training of secondary teachers.

The Educational Times.

The Technical Congress.

The fourth International Congress on Technical Education was invited to London by the Society of Arts on the understanding that the Government would at any rate recognize its presence in this country, and that the City Companies would practically meet the cost. The President and Vice-President of the Committee of Council were, accordingly, present at the first meeting, and the Duke of Devonshire delivered the opening address as President of the Congress. The English note was struck at once in the Duke's plain and practical speech. He set out by reminding our foreign guests that we have no Minister of Education in this country; that our education above the primary stage is unorganized; that he himself, "though no educational expert," was at the moment an educational President in three capacities—of a Government Department, of a voluntary association for promoting technical education, and of the Congress which he was addressing; that we in this island, whilst glad enough to get public money for public purposes, took care to leave as much as possible of the actual administration to local bodies and independent initiative; that we had, nevertheless, been carefully watching the experiments and profiting by the experience of other countries; and that within the past few years especially the unfettered action of private zeal and public opinion had advanced education in every phase, leading the Government in its train. The Duke was particularly happy in bringing out this familiar English characteristic. He said, with literal truth, that in the history of more than one grade of English education, public conferences held at suitable times have been highly beneficial to the public interest. They bring the leaders of the education world into personal contact with one another, and promote the useful interchange of opinions and experience. The reports of the discussions in the newspapers and the subsequent publication of their proceedings deeply influence public opinion, and help to guide the policy of Parliament and of the administrative Departments of State. And again, with respect to decentralization and local initiative:—

> We have recently been working out an interesting and fruitful experiment in combining financial aid from the central Exchequer with great *freedom* of action and experiment on the part of the County and County Borough Councils. The policy of the Government in 1890, in permitting local authorities to

expend their share of the residue of the excise duties on technical education has probably done more than any previous act of the State to stimulate national interest in technical instruction, and, indirectly, in other forms of education also. While the central Government, through its administrative departments, has not failed to give a certain measure of guidance to the new movement, it has thrown the greater part of the responsibility on the local authorities, believing that (in technical education especially) there must be a great *elasticity* in administration, and incessant adaptation of the means and form of instruction, in order to meet the great *variety* of the industrial and commercial needs, which exist in the different localities and can only be ascertained and fully tested by local experiment. The local authorities have, with few exceptions, risen to their new responsibilities with alacrity and enterprise.

We have italicised the three mystical words which will never be far to seek in a speech on English education, or in an Act of Parliament for its organization.

We report the proceedings of the Congress in another page; and the comment which it seems to us most interesting and important to make is that the speakers, on the whole, took a reasonable and worthy view of the inseparability of hand, eye, and brain culture. Only one or two seemed to think that they could divide bone and marrow, practice and theory, the senses and the intellect, the work of art and the art of the work. The mere materialistic tone of some of the earlier Technicals is dying out; and there is every prospect that a fair distribution of encouragement to all types of secondary schools and colleges will, before long, sweep away the last vestige of uneasiness amongst the champions of various forms of education.

The discussion of Thursday, on the need for more systematic instruction in commercial subjects, was very significant. We are distinctly of opinion that no branch of English education stands in greater need of careful attention and development than that of commercial specialization in school and institute. The suggestions offered to this end by Mr. Eve and Dr. Wormell are of great value, and we trust that these gentlemen will not let the matter rest in the stage of suggestion, but will urge it forward into some sort of definite actuality, using their influence as headmasters of great London day schools, and as prominent members of the College of Preceptors, to give effect to what they said at the Congress, and to the judicious words of Mr. Sidney Webb in the same connexion. Previous efforts to encourage commercial instruction and to provide commercial certificates have had scanty success, because they have been conceived on too narrow lines, and with too little of the necessary specialization. But in this country, if anywhere, and at this crisis in the history of our country, the importance of a more effective preparation for commercial life cannot be exaggerated, and ought not to require a very emphatic assertion.

Secondary Organization.

We print below a *précis* of a "Draft Scheme for a Secondary Education Bill," adopted by the Headmasters' Association. It was given in substance in the *Educational Times* for May; but, as it has been revised in the meantime, and as the Association are now inviting the adhesion of other educational bodies, it may be desirable to consider the scheme in its present form:—

The Technical Instruction Acts render legislation absolutely indispensable.

Organization demands—(*a*) *A Central Authority:* (i.) To include the Education Department, the Science and Art Department, and the necessary powers of the Charity Commission (*i.e.*, educational and financial control of schools). (ii.) To include a Professional Advisory Council. (iii.) To be controlled by a responsible Minister. (*b*) *Local Authorities:* (i.) On the lines of administrative counties and county boroughs. (ii.) To include persons experienced in Secondary Education, in Primary Education, and in commercial and industrial needs. (*c*) *Registration:* (i.) Of Teachers, *i.e.* as recommended by the Royal Commission on Secondary Education, of all persons qualified to teach in Secondary Schools, including those engaged in teaching in Public Elementary Schools who possess the requisite qualifications. (ii.) Of efficient Secondary Schools, as regards number and qualifications of staff, adequacy of appliances for teaching, and suitability and sanitation of premises. (*d*) *Delimitation of Primary and Secondary Schools:* (i.) Elementary schools, or primary schools, to have the present seven standards of the Code only, but these standards to have an authorized syllabus graded in the other subjects, as well as in reading, writing, and arithmetic, such syllabus to be suitable to a curriculum planned to terminate at the age of twelve. (ii.) Higher primary schools to be solely schools continuative of the work of the elementary school, beginning after Standard V., and [when the Code shall so provide] taking continuative Standards VI., VII., VIII. and IX., consisting of authorized graded syllabuses of subjects suitable for educational courses planned to terminate at the age of fourteen or fifteen; the curriculum to have, as a rule, a direct bearing on industrial employments. In those rural districts where such higher primary schools cannot be established, continuation courses should be attached to selected primary schools, chosen in each case to serve a recognised area. (iii.) Secondary schools to provide curricula adapted to professional, scientific, mercantile, and higher industrial requirements, or those of the public services, and planned to terminate at the ages of seventeen or nineteen. The junior [or preparatory] section of a secondary school to have a curriculum comprising the normal subjects of primary education, together with subjects suitable to the aim of the secondary school in question, and the complete classification of the school to be such that scholars from the top standards of the elementary school may be able, with reasonable diligence, in a short time, to take up the ordinary work of the secondary school.

It seems desirable to know whether this scheme is to be submitted to and discussed by the Joint Committee appointed before Christmas, at the instance of the College of Preceptors, "to consider what legislation in the immediate future would be acceptable to secondary teachers." If it is to be submitted, the various bodies will doubtless hear from their representatives, in due time, the nature and outcome of the discussion. The plan appears to be on the whole a good one, and if it were sanctioned and laid before us by the Joint Committee it would claim our immediate and favourable consideration. But we are compelled to point out, if only as a matter of consistency, that the course which is being taken to arrive at the matured opinions of the teaching bodies affords a very strong confirmation of the view put forward in the *Educational Times* a few months ago—namely, that teachers alone are competent to say what would be acceptable to teachers, and that, sooner or later, the secondary teaching profession will have to formulate and maintain its own independent convictions.

It may be that the Joint Committee, which includes an administrative element, and, we believe, a representation of the Universities, will consider and adopt the Headmasters' scheme; and indeed we see no reason why the scheme should not be accepted as a general summary, though not an exhaustive summary, of the true principles of organization. It is based on the recommendations of the Royal Commission, and it embraces most of the features which we have constantly defined as essential. It asserts or implies the principles laid down in the first six of the nine resolutions printed at the head of our leading articles, and it contains nothing adverse to the other three. The claim of the secondary schoolmasters (we use the same words as we have employed more than once already) "is that all efficient schools shall be treated on the same basis; that grants shall no longer be confined to particular types of efficient schools; that legislation shall recognise *the necessity for freedom, variety, and elasticity in secondary education;* that all

bodies having secondary control shall include an appreciable element of members elected by a secondary electoral register; that local authorities shall be controlled by a central secondary authority; that the central authority shall include an advisory and appellate Council, representing all the interests of education; and that there shall be *no arbitrary interference with independent schools which do not ask for aid.*"

The scheme which we have described is a plan of organization, and, as it stands, we see little or nothing in it to which we could seriously object. But whenever the Government Bill is drafted we should like to find the guarantees which are here printed in italics formally recited in the preamble. This would meet the necessities of the case; but, in the absence of such a pledge, the least that we can do, and all that we can do, will be to watch and scrutinize every word and phrase of the Bill, in order that no violence may be offered, if it is possible to prevent it, to the necessary freedom of education—a condition without which any plan of secondary organization would be in the highest degree obnoxious and injurious.

NOTES.

The Senior Wrangler of this year, Mr. W. H. Austin, came from one of the Birmingham Board schools, whence he passed, by successive scholarships, to King Edward's Grammar School, Mason College, and Trinity College. That educational ladder, then, reached from the bottom to the top—and Mr. Austin was clever and patient enough to climb it, every rung. By a happy coincidence, another pupil of an elementary school is in Division I. of Class I. of Part I. of the Moral Sciences Tripos at Cambridge. Mr. W. H. Winch was educated at Bishopsgate Schools, and afterwards articled as a pupil-teacher at Wellington Street Board School, London. He was first in England in the Queen's Scholarship Examination at the close of his apprenticeship. After being trained at Borough Road College, Mr. Winch re-entered the service of the London Board at Olga Street Schools, Bow. For two or three years he studied natural science, taking twelve advanced certificates in the South Kensington examinations, and two in honours. In 1894 Mr. Winch was bracketed first in England in First Class Honours in Practical Chemistry, and the next year entered St. John's College, Cambridge. This is an excellent record.

The Archbishop of Canterbury, as Visitor of Haileybury, has decided that further inquiry into the circumstances attending the death of the boy Cuthbert Evans is unnecessary. We scarcely think, in view of all that has been made public, that any special blame would have been shown to attach to either masters or boys. Our national manners are becoming more and more humanized, yet in the old public schools a certain belief in the value of rough treatment still remains. We are justly proud of our public schools, and are accustomed to flatter ourselves that we produce better results by a policy of trust than we should do by a system of espionage. Yet boys are often cruel, and they certainly need watching. This cruelty is, we hope, rarely conscious or deliberate; it is rather the result of indifference or ignorance, and sometimes of curiosity—a desire to probe feelings and test endurance.

The work of the Joint Training Committee proceeds apace. Several important matters have been threshed out, and agreement has been arrived at on most points. Just as we are going to press, the Committee is to meet at Birmingham, and, judging from the agenda paper, it will have an opportunity of nearly completing its outline scheme. In the meantime, opportunities for training are multiplied. There is a course in August, at Jena, where students may have the privilege of working under Dr. Rein. Mr. Gerrans, at Oxford, proposes a special holiday course for training, in addition to the lectures on pedagogy which form part of the University Extension Course. If sufficient names are given in, Mr. Keatinge will put himself at the disposal of masters who wish to make up for want of earlier opportunities. Names should be sent to Mr. Gerrans.

The Report of the recent Committee on Science and Art Grants still arouses much discussion, and it will continue to do so as long as the dread of South Kensington as a "central authority" is held over our heads. No sufficient explanation or assurance has been given in Parliament, and it seems probable that, by Section 7, the Department hoped quietly to be able to seize the direction of secondary schools, so that, when the promised Bill was brought in, they might be found in possession of the field. The opposition already shown may induce my Lords to refuse their consent to the Report of the Committee. What the new Bill will propose we cannot say. One rumour has it that the local authorities to be constituted will be composite bodies, representing various elements and interests. The same Bill will, no doubt, deal with a central authority, to include, but not merely to consist of, South Kensington.

We are glad to hear that the Drapers' Company has given £15,000 to the University of Oxford for a new Radcliffe Library. Of late years the stream of benefactions to the cause of education has not kept pace with the development of educational schemes. It cannot be too strongly insisted upon that higher education never has paid for itself, and never will. But old endowments and old buildings are no longer equal to the demands made upon them. Of the necessity of improving our educational facilities from year to year, as opportunity offers and increased knowledge suggests, there can be no doubt. In more than one department of special knowledge we are behind the best-equipped schools and Universities of other countries. The gaining of knowledge, coupled with the ability to use it, spells power. And there are few, if any, better ways in which men who have made large fortunes out of their fellow-countrymen can show their recognition of this fact than by spending part of their superfluity in helping on the cause of education.

At the St. Paul's Apposition Dinner, Sir Joshua Fitch, proposing the health of the High Master and his colleagues, drew attention to the fact that, within the past twelve months, Paulines have taken both Chancellor's Medals at Cambridge, and about half the University prizes and University scholarships (*proximes* included) at Oxford. The success of St. Paul's is becoming monotonous, but it is a monotony which never wearies. Bishop Browne was warranted in his claim that "not a single penny of Dean Colet's endowments should ever be diverted to any purpose other than that of providing the highest possible education." The High Master, whose achievements

are only stepping-stones, reminded us that in 1909 the school would celebrate its four-hundredth anniversary, and he hoped that, when that time arrived, "the great Bishop and scholar who rules this diocese will consecrate for St. Paul's School a second chapel worthy of the stately buildings at its side." We add a further hope, that Mr. Walker may still be there as High Master, and listen to the first *Te Deum*.

A CORRESPONDENT says:—"The Cambridge University Registry has printed the record of votes on the question of titular degrees for women. It appears that one college only—Emmanuel—had a majority in favour of the proposition. Bravo Emmanuel! On the "placet" side the following are some of the best known names: Lord Acton, Lord Battersea, Earl of Belmore, Sir A. W. Blomfield, Marquis of Bristol, the Masters of Trinity, Emmanuel, Downing, Jesus, Christ's, St. Peter's, Sidney, Caius, the Public Orator, Professor Clark, Viscount Corry, S. Colvin, Sir R. J. Cust, Hon. A. R. D. Eliot, Ven. Archdeacon Emery, Professor F. A. Ewing, Professor T. McK. Hughes, Chancellor Leeke, Professor Liveing, Hon. A. T. Lyttelton, Hon. E. Lyttelton, Hon. J. W. Mansfield, Professor A. J. Mason, Sir J. B. Phear, the late Master of Emmanuel, Sir H. A. Pitman, Sir F. Pollock, Bart., Lord Rayleigh, H. Sidgwick, Bishop of Southwark, Earl Spencer, Professor Stanton, E. J. C. Morton, M.P., J. Stuart, M.P., Sir G. O. Trevelyan, Bart., Professor Westlake, Sir Roland K. Wilson—in all, six hundred and sixty-two; very close, one must admit, to the number of the Beast. But the M.B.'s, as well as the M.D.'s and Medical Masters, formed probably the largest—certainly the most strenuous—contingent of graduates who swarmed up to flout the presumptuous sex on May 21. I think the country parsons have been unjustly suspected on this occasion. It was chiefly the medicos and medical students who worked up the excitement. The lady-doctor has been too much for them."

IT is difficult to decide as to what is strict grammatical correctness. We are accustomed to allow considerable latitude to writers of recognized position. Each case must be judged on its merits, and, if the sense is clear, we put up with a broken rule; or, as the old grammars have it, we admit the κατὰ σύνεσιν construction. This reflection is suggested by an irate reply of Mr. Jerome's to a critic who attacked his grammar. Mr. Jerome seems to pin his faith to Lindley Murray, and asserts that he has not only studied grammar, but "has taught it." This reminds us of a famous utterance of Mr. Arthur Sidgwick's: "I do not know any science; I have not even taught it." But, on the whole, we are wise in not attaching too much importance in primary education to the rules of our own syntax. Boys and girls get elementary ideas of construction and agreement most easily through the medium of a foreign language. For the rest, if the sense is clear, that is the main thing. The difficulties and vagaries of our syntax will be readily appreciated by any one who has tried to teach a foreigner to write English.

SUMMARY.

THE MONTH.

THIS year's Education Vote for England and Wales reaches the respectable figure of £4,306,910. Introducing the discussion in Committee of Supply, Sir John Gorst explained that there was an increase on the expenditure of the previous year of no less than £339,985. This increase was caused almost entirely by the addition to the Education Estimates, increases in the annual grants to day and evening schools, increased fee grants, and additional grants to School Boards and to training colleges. The addition was almost entirely caused by automatic increases beyond the control of the Department and the Treasury. The estimate for the present year amounted to £7,306,000, which showed an increase over the estimated expenditure of last year of only £31,653. The annual grant for day scholars in the present year amounted to £4,338,000, and it provided for 4,487,000 in average attendance, or a rate of 19s. 4d. per scholar. That average attendance had increased in the current year by 98,000 scholars, or about double the increase which would be attributed to the natural increase of population. The ratio between the number on the books and the number in attendance remained pretty stationary, showing that the attendance under the Compulsory Act had now reached the maximum effect.

THE report of Mr. Warren and Professor Liveing on the work and needs of the University Colleges, which had applied to the Treasury for increased grants, has been printed as a Parliamentary paper. They state that in their opinion the Colleges "are, to speak generally, doing good work, fulfilling their function, and realizing the purpose for which they were established—that, namely, of bringing education of an advanced and University kind to those who cannot go to the Universities to seek it, or forming a link between the Universities and the great commercial communities of the country, and of establishing in the midst of these communities centres of intellectual enlightenment and culture. As such they are becoming more and more so many homes and rallying points of science and learning; offering, moreover, opportunities of advanced work and research, and in their libraries, museums, laboratories, and other equipments providing appliances for, and instruction in, the proper methods of investigation, and altogether in some measure doing in England for higher studies what has been done with so much success in Germany by her many Universities." They lay stress, however, upon the value of a degree, alike in attracting students and in giving point and direction to their education; and they suggest the desirability of removing the limitation which at present exists of grants made by County Councils to technical instruction, preventing, as it does, young persons who show capacity for profiting by higher instruction in literature or science from holding County Council scholarships at the University Colleges. They add detailed reports regarding each of them, in order to substantiate their various contentions, and these documents bear striking testimony to the painstaking care with which the investigation was conducted; while they are supplemented by an elaborate and highly technical financial report by Mr. Chalmers, which markedly shows the necessity for the colleges receiving further financial aid.

As a consequence of this Report, the Treasury has determined to increase the grant of £15,500 to £25,000 from the beginning of the present financial year. A Departmental Committee (consisting of Mr. Mellor, Q.C., M.P., Sir Henry Roscoe, Dr. Jebb, M.P., Mr. Whitmore, M.P., and Mr. W. J. Courthope), appointed to allocate the sum between the different colleges, has recommended the following appropriation:—Owens College, Manchester, £3,500; University College, London, £3,000; University College, Liverpool, £3,000; Mason College, Birmingham, £2,700; King's College, London, £2,200; Yorkshire College, Leeds, £2,200; Durham College of Science, £2,200; University College, Nottingham, £1,500; Firth College, Sheffield, £1,300; University College, Bristol, £1,200; Bedford College, London, £1,200; and University College, Dundee, £1,000. This allocation has been adopted by the Treasury; and there has been forwarded to the colleges a further recommendation of the Committee:—"That in each of the following colleges at least three-fourths of the increased share in the Parliamentary grant be allocated solely for the purpose of either increasing the numbers or improving the emoluments of the staff, or both—Mason College, Yorkshire College, and Nottingham College for increasing the numbers and emoluments of staff, and King's College, Firth College, and Bedford College for increasing emoluments of staff."

THE Drapers' Company have had a happy thought, and have written the following letter to the Vice-Chancellor at Oxford:—

"The Court of Assistants of the Drapers' Company are informed that the library with which the University of Oxford was endowed by Dr. Radcliffe has out-grown the accommodation provided for it, and that if it were lodged in a larger and more suitable building the library would be more useful to the members of the University, and to other scholars who have occasion to consult it. . . . It has occurred to the Company that it might assist the scientific work of the University by erecting a new building to accommodate the Radcliffe Library, and in the hope that such assistance would not be unwelcome, the Court of Assistants have passed a resolution to the effect that Mr. T. G. Jackson, R.A., be requested to advise them as to the erection of a building suitable for the Radcliffe Library on the site which it is understood is available for it, and should it be found that such a building could be erected for the sum of £15,000 the Company will be happy to undertake the erection of it, of course in the first place submitting the architect's plans to the University authorities for approval."

At the last meeting of the Aberdeen University Court, it was decided to request the present Lecturer on Education, whose appointment terminates in July next, to continue in office until the close of the winter session of 1897–98, and to deliver his full course of 100 lectures, pending the placing of the lectureship on a new footing in view of the number of candidates as Queen's students.

We add some further particulars of the very significant report of the Committee appointed by the Duke of Devonshire to inquire into the distribution of Science and Art grants, issued in May, together with a revised edition of the Science and Art Directory embodying its recommendations. The Committee consisted of Sir J. Gorst, M.P. (chairman), Lord Balfour, Mrs. Sidgwick, Sir J. Donnelly, Sir H. Roscoe, Mr. G. L. Ryder, Professor Jebb, M.P., Mr. W. Armstrong, and Captain W. de W. Abney (who acted as secretary). The combined grants referred to the Committee now exceed £500,000, and are increasing. Under the head of the "Management of Schools and Classes" the Committee have inserted in the Directory the following clause, which is founded upon a recommendation of the Royal Commission on Secondary Education :—

In counties and county boroughs in England possessing an organization for the promotion of secondary education, the authority so constituted may notify its willingness to be responsible for the science and art instruction within its area. In such case, while the rights of the managers of existing schools and classes will be preserved, no managers of a new school or class will, except under special circumstances, be recognized unless they are responsible to such authority. In Wales the intermediate-education authority is for this purpose regarded as the authority for the promotion of secondary education.

This recognition of local authorities as those who should be responsible for secondary education will, in the opinion of the Committee, simplify the work of central administration, secure greater efficiency in the schools, and be a protection against their undue competition and multiplication.

As to "Literary Instruction," the Royal Commission, in dealing with the grants made by the Science and Art Department, stated that, in order to meet the new conditions, the Department needed to be more liberal in its recognition of literary subjects, and to feel that they were essential to education and not alien to science. The Committee have inclined to this view, and in order to give a stimulus to students in evening science and art classes in England to improve their general education, and to encourage the study of languages and literary and economic subjects, they recommend that, where any *bona fide* student of these classes desires such instruction, a grant should, under somewhat stringent conditions, be made on his behalf to classes held by University Extension authorities. This, it is thought, will meet the objection that the Science and Art grants tend to encourage a one-sided education, while it is improbable that it will ever absorb more than an infinitesimal portion of the grants. Hitherto it has been laid down that no payments can be made on account of students whose means do not come within certain categories. Such restrictions, the Committee state, have been abolished in the case of elementary education, as inflicting an undesirable stigma upon those whose education is assisted by the State, and they recommend the abolition of all restrictions of this kind; but, to prevent abuse, they have added a regulation that schools in receipt of payments must be "approved by the Department as suitable in character and financial position to receive aid from public funds." With the same object it is proposed to abolish the restrictions placed on persons eligible to hold certain scholarships and exhibitions, but a provision has been added that, "The Department may refuse to fill them with persons whose circumstances do not appear to warrant such aid."

Our Welsh correspondent writes :—"Of late, considerable interest has been felt in Wales in the subject of manual instruction in the county schools. Much of this new interest is due to the initiative of Principal Reichel, of the University College, Bangor, who has been instrumental in calling conferences together at Aberystwyth, Bangor, and Cardiff, to discuss the subject. Several county governing bodies are already giving pecuniary aid to masters at the schools, in order to enable them to study the subject at Nääs.—There is a large increase this year in the number of candidates for the Matriculation Examination of the University. The examination of the county schools of Wales (now eighty-two) will commence on July 19.—At a meeting of the Association of Headmasters and Mistresses of County Schools in Wales, held on Saturday, June 19, a paper was read by Mr. J. Russell, M.A., Headmaster of the Grove Park School, Wrexham, upon 'Pensions for Masters and Mistresses of County Schools in Wales.' Mr. Madoc Jones (Beaumaris) opened a discussion on the teaching staff in relation to the schools, and proposed a resolution to the effect that it would "be advisable that the Central Board should keep a list of graduates and other applicants for assistantships in intermediate schools." Mr. Griffith Jones (Penarth) suggested that the Assistant Masters' Association be also recognized in this respect. It was eventually decided to defer further discussion of the subject till the next meeting.—The next meeting of the Executive Committee of the Central Board will be held at Shrewsbury on July 30.—One of the chief topics for discussion at the approaching meeting of the Theological Board of the University of Wales is that of the approval of theological colleges for the purpose of preparing for the B.D. degree of the University. The following theological colleges in Wales are at present without permanent principals :—the Independent College, Bangor; the Independent College, Brecon; the Baptist College, Bangor; and the Baptist College, Aberystwyth.—In addition to the chief examiners for examining the county schools whom we mentioned last month, the following assistant examiners have been appointed: Mr. A. B. Badger, M.A., University College, Cardiff, was appointed Examiner in Geography, Geology, and Physiography; Professor J. K. Ainsworth Davis, B.A., University College, Aberystwyth, in Botany, Hygiene, and Physiology; Mr. John Thornton, Collegiate School, Leamington, in Bookkeeping; Miss Hester Davies in Domestic Economy; and Professor Conway, M.A., University College, Cardiff, in Greek. —The Warden of the Guild of Graduates for the present year is Mr. T. E. Ellis, M.P., Chief Liberal Whip, formerly student of the University College of Wales, Aberystwyth."

"Foundation week" at University College, London, was inaugurated on June 14, when a large audience assembled in the Botanical Theatre to hear Professor G. Vivian Poore deliver an oration on the history of the College. Lord Reay, the President of the College, expressed satisfaction that it had been decided to establish a foundation week, feeling sure that it would be a source of strength to the institution. There had been, perhaps, in the past, a lack of collegiate life, but that was a defect which "foundation week" would remove. Dr. Poore paid a tribute to the memory of Jeremy Bentham. Although Bentham was not officially connected with the College, many of its founders—Brougham, James Mill, Grote, Mackintosh, and others—belonged to the Benthamite school of philosophy, and no account of the College could be considered complete without allusion to this lovable and eccentric philosopher, who had taught and advocated many of the principles which were, so to speak, incorporated with the College. To turn from Bentham to Brougham was, in the words of Oliver Wendell Holmes, like taking a squirrel on one's lap after nursing the cat. Brougham was the first President of the College, and they could not overestimate the value of his labours on its behalf. After dealing with other members of the original Council—Grote, Mill, Joseph Hume, and others—Dr. Poore passed on to the consideration of

the first staff of professors, among whom were De Morgan, Lindley, the botanist, and Dionysius Lardner. One of the most remarkable of the professors was De Morgan. His name would probably never die as a mathematician. He read algebra as other people read novels, and, curiously enough, he also devoured every book of fiction he could obtain..

UNIVERSITIES.

(*From our Correspondents.*)

Oxford.

We have had our share, of course, in the excitements of the National Jubilee, and both graduates and undergraduates have sufficiently attested their loyalty. Commemoration naturally took its tone, to some extent, from the general jubilation, and our new honorary Doctors include the King of Sweden and Norway, the Colonial Premiers now in this country, and Mr. E. L. Godkin, Editor of the New York *Nation*, who has always had a high repute in England as one of the most cultured and dignified of American publicists. These are all D.C.L., but in addition the Colonial Primates receive recognition as Doctors of Divinity.

A further mode of celebrating her Majesty's record reign has been devised by Convocation, which has made a grant of £50 on that pretext towards the erection at Bexley of homes for the aged poor. It was explained that this was in lieu of a site, the University having no power to alienate land for the purpose.

Congregation have empowered the Taylorian Curators to grant a pension of £150 per annum to M. Jules Bué, who has been the Teacher of French in the University for fifty years. M. Bué has written a number of French text-books, by which he has doubtless been as familiarly known out of Oxford as in the University.

The President of Trinity, the Rev. H. G. Woods, who came to us from Brighton when Bishop Percival resigned the Presidency, will be missed in Oxford on more than one account. He has taken a fairly active part in the affairs of the University; and he was one of the earliest friends and most constant supporters of Somerville College, discharging for many years the office of treasurer to that institution. Mrs. Woods, whose inability to live in our relaxing air has compelled the President to relinquish his position, is a daughter of the Dean of Westminster, and is well known to the reading public, not only as a novelist ("A Village Tragedy," "Esther Vanhomrigh," &c.), but also as a poet of no mean order.

The vacancy created some months ago by the lamentable death of Mr. Wallace, Whyte Professor of Moral Philosophy, who was killed by a fall from his bicycle, has been supplied by the appointment of Mr. J. A. Stewart, Student and Tutor of Christ Church. Mr. Stewart is best known as the author of a commentary on Aristotle's "Ethics," which is not merely the only respectable commentary on that much-studied treatise, but is also a work of real and solid value. Immediately on its appearance it was recognized as one of the very best editions of Aristotle.

At the last debate of the Union Society the House was invited to declare that the Liberal party had ceased to exist; but the motion was defeated by a considerable majority. An address of congratulation from the Society to her Majesty on the completion of the sixtieth year of her reign has been agreed to and forwarded to Lord Salisbury for special presentation.

Convocation duly passed a cordial vote of thanks to the Worshipful Company of Drapers for their offer of £15,000 for the erection of a new Radcliffe Library. Sir William Anson, in proposing the motion, stated that the new building would free those who were in charge of the library from any anxiety as to the space which the library would thereafter occupy, and also free a large area of the museum, which might be devoted to the construction of a library for the study of pathology, and so advance the interests of a scientific school of medicine.

The Conington Prize of £180, offered once in every three years for a dissertation, either in English or Latin, on subjects appertaining to classical learning, has this year fallen to Mr. Frederic G. Kenyon, M.A. of Magdalen College, for his dissertation on the "Palæography of Greek Papyri." Dissertations by Mr. G. F. Hill, M.A. of Merton, and Mr. G. B. Grundy, M.A. of Brasenose, were adjudged to be worthy of high commendation. The Hertford Scholarship has been awarded to B. P. Moore, Scholar of Balliol.

Cambridge.

It is now settled that Dr. Hill, Master of Downing College, will become Vice-Chancellor of the University in the ensuing October term. It is fifty years since Downing has given the University a Vice-Chancellor. Mr. Chawner, Master of Emmanuel, will probably succeed Dr. Hill in 1899.

Two new University offices have been created—a Lectureship in Physiological Psychology, and a Professorship of Chinese. At the death of Sir Thomas Wade, the Professorship of Chinese became extinguished: it is now believed that some distinguished Orientalist will be found to accept the new Professorship on the same terms—nothing a year and no fees. The creation of the other lectureship was not allowed to pass without some opposition from Dr. Mayo, who rather pertinently suggested that, as there are Professors of Physiology, Pathology, Zoology, and Moral Philosophy, besides various readers and lecturers on cognate topics, it might be possible for the topic to be adequately treated by some one of these distinguished persons. The Senate, however, refused to support Dr. Mayo, though a very large number of those present did not vote in favour of the Grace.

There has been some fluttering in the financial dovecotes caused by the publication of the report of the Sites Syndicate. One preliminary remark: The colleges have a *taxable* income of £215,000 a year; the University can with difficulty pay its way. Sites have been obtained at rather high prices from Downing College and from Mortlock's Bank: the Syndicate have to decide what is to be done with those sites. Requisitions were addressed to twenty-nine different persons or bodies; from twenty-four different quarters came demands for accommodation, with the label of urgency in the case of Engineering, Law, Modern Languages, Moral Sciences, Zoology, and University Business. Sites have been assigned to all the applicants, and the difficulty now is to find the money to erect the buildings. The chances are greatly in favour of Professor Marshall Ward (Botany), Professor Ewing (Engineering), and Professor Maitland (Law) getting what they ask for. The enormous increase in the Medical and Engineering Schools, and the steady development of Law work, are at last attracting the notice of the Universities. The above-named professors also have a way of knowing what they want and seeing that they get it.

Examinations and degrees have been the prevailing topic of discussion during the last half of the term. The success of Trinity College in the older Triposes has been somewhat phenomenal: four out of the first six places in the first part of the Classical Tripos and six out of seven in the Mathematical constitute a fairly good record. The Law Tripos is also interesting for the fact that the leading place is taken by Mr. de Villiers, of St. John's, the first of the new affiliated students to fill such a position. The Cape of Good Hope is responsible for this gentleman's previous education, and he has profited by his two years' stay among us to sweep the board of all prizes within his reach. It was expected that there would be some murmuring at the results in the Natural Science List, in consequence of an anatomy paper which gave offence in some quarters; the examiners were, however, able by a discreet *viva voce* to put matters right.

The chief excitement, however, of the term has been the conferring of honorary degrees, and the list was a most suitable one for this Jubilee year—Lord Lansdowne, Chief Justice Way (South Australia), Maharajah Sir Protap Singh, of Cashmere, who received a welcome which must have pleased that gallant soldier and distinguished sportsman; the Colonial Premiers, who were introduced to the Vice-Chancellor first collectively by the Public Orator in one of his neatest efforts and afterwards individually; the Hon. Wilfrid Laurier (Canada), Sir George Turner (Victoria), the Hon. R. J. Seddon (New Zealand), Sir Edward Braddon (Tasmania), Sir John Forrest (West Australia), and the Hon. Harry Escombe (Natal). In addition to these, Sir George Goldie, Sir Arthur Arnold, Sir John Kirk, and Sir William Henry White had Doctorates conferred upon them. A large garden party was given the same afternoon by the Mayor, Mr. Horace Darwin, and most of the newly created doctors were present in their scarlet robes, to the great delight of the crowds of children, with whom some of the more eminent visitors seemed perfectly at home.

The festivities of the May term have this year been unduly prolonged in consequence of the Jubilee celebrations. Beginning with the boat races, Cambridge was simply crammed, and visitors on the whole had a thoroughly enjoyable time. The races were remarkable for the rise of the Emmanuel boat,

which is now second on the river. This college is rapidly coming to the front, and attracts more freshmen every year, and, what is more, men of a better stamp every year. The college, in its wisdom, some years ago made discreet persons into tutors, and now the result is evident. Sidney is another college which has realized the facts of the situation, financially and otherwise, and, as a consequence, is taking a higher position in the University year by year.

Trinity College celebrated the Diamond Jubilee by giving a grand reception, about fifteen hundred guests accepting the invitation of the Master and Fellows. Rarely has so beautiful a scene been beheld in the grand old place; the bowling green, great court, hall, combination room, and Master's lodge were all thrown open to visitors, while the cloisters in Nevile's Court were devoted to the refreshment of the inner man and woman. Every detail was carried out in the manner for which Trinity College is famous.

Personal news of the month:—Senior Wrangler: Austin, Trinity. Smith's Prizemen: (1) E. T. Whittaker, of Trinity; (2) R. C. Maclaurin, St. John's, and A. E. Western, Trinity, equal. Whewell Scholars: (1) A. F. Topham, Queens'; (2) T. W. Payn, Trinity Hall. Craven Student: L. O. Barnett, B.A. Trinity. Harkness Scholar: R. H. Kitson, B.A. Trinity.

APPOINTMENTS, &c.

The Whyte Professorship of Moral Philosophy at Oxford, vacant by the death of Professor Wallace, has been filled by the election of Mr. J. A. Stewart, M.A., Tutor of Christ Church.—The Rev. L. J. M. Bebb has been elected Grinfield Lecturer on the Septuagint at Oxford.

The Rev. G. W. Gent, M.A., Principal of St. Mark's College, Chelsea, has been elected Principal of St. David's College, Lampeter.

The Rev. H. G. Woods, President of Trinity, Oxford, has resigned the headship of the College.

Mr. R. E. Owen, M.A. of Jesus College, Oxford, formerly Student at the University College of Wales, Aberystwyth, has been appointed Headmaster of the County School, Welshpool.

Mr. James Clark, B.A. Oxford, Classical Master at Gordon's College, Aberdeen, has been appointed Headmaster of Dumfries Academy.—Mr. Edward H. Smith, A.C.P., Science Master to the Warminster District of the Wilts County Council, has been appointed Headmaster of the new Technical Secondary and Boarding Schools for boys and girls, to be built at Wedmore, Somerset. The schools, which receive an annual grant of £100 from the Somerset County Council, will be opened in temporary premises on August 16.—The Ebbw Vale Intermediate School is about to be opened, and the managers have resolved to proceed to the appointment of a Headmaster.—The Girls' Public Day School Company advertise for a new Headmistress for their Oxford School, in the place of Miss Soulsby, resigned.

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The half-yearly General Meeting of the College of Preceptors will take place on Saturday, July 24, at 2 p.m.

The Court of the Victoria University have agreed to substitute Geography for Physiography as an optional subject in the preliminary examination.

The Committee appointed to consider the best means of improving the conditions under which assistant masters are wont to hear of vacancies and secure appointments have presented a first report to the constituting bodies, and we are glad to think that there is a prospect that satisfactory arrangements will be made.

The fourth meeting of the International Congress of Zoology is fixed to take place at Cambridge in August, 1898: which will be the first occasion of this important Congress being held in England.

It has been decided to open next October at Cambridge a hall of residence for women students engaged in post-graduate work who wish to secure the advantages of association with other students, and of assistance, if required, in the pursuit of their studies. During the present academic year a private experiment of this kind has been tried with such success as to warrant the starting of the proposed hall. Students who wish to reside in the hall will, in general, be required to have taken a University degree or to have passed an examination qualifying for such a degree, and to present satisfactory testimonials to a committee. The charges for board and residence for the academic year—three terms of nine weeks each—are from £50 to £60, these fees not, of course, including tuition. A studentship of £50 will be awarded for the coming academic year to some student intending to pursue a course of study or research at the hall. This new enterprise will be under the direction of Miss Ellen M'Arthur, late Vice-Mistress of Girton College.

THE INTERNATIONAL TECHNICAL CONGRESS.

The fourth International Congress on Technical Education was held at the rooms of the Society of Arts on June 15–18. There was a large number of delegates from various countries, including representatives of the principal technical associations and educational bodies in Great Britain and Ireland. The Duke of Devonshire presided over the Congress, in succession to M. Léo Saignat. The subjects for discussion at the Congress included: Industrial Education—(1) Advanced Instruction. Polytechnics, Universities, Colleges. (2) Secondary Instruction. Higher Technical Schools; Secondary and Intermediate Schools; Evening Schools. Commercial Education—(1) Advanced Instruction. Colleges; High Schools and Institutes of Commerce. (2) Secondary Instruction. Commercial Schools; High Schools; Classes for Adults.

The discussion on Tuesday, which related to the teaching of Chemistry, was preceded by addresses from the outgoing and incoming Presidents. The Duke of Devonshire said:—"It is partly in our official capacity that Sir J. Gorst and I take part in these proceedings. To British hearers probably no part of the discussions will be more instructive than that which is to be devoted to the subject of commercial education. In the field of higher commercial education, Great Britain is believed by many competent observers to be seriously behind several of the Continental nations. The reputation of the French schools of commerce stands deservedly high, and the Congress is to be congratulated on the prospect of hearing from so eminent an authority as M. Jacques Siegfried, of Paris, and M. Saignat, the late President of the Congress, an account of higher commercial education in France. Attention will also be usefully directed to the influence of Germany, and especially the *Realschulen* of Berlin, in producing, by means of a carefully planned modern secondary education, given by trained teachers of the highest attainments, an increasing number of youths eminently fitted to profit by the highest kinds of technical education, and to promote the commercial interests of their country. The present Congress is held at a time specially interesting to all the English-speaking world. The long reign of her Majesty has practically coincided with a great series of efforts, public and private alike, to build up a national system of education in this country."

A vote of thanks having been passed to the Duke of Devonshire, his place was taken by Sir Owen Burne.

Dr. Otto N. Witt (Professor of Chemical Technology at the Royal Polytechnic School of Berlin) contributed a paper on "The Relations existing between the Teaching of Pure Chemistry and Applied Chemistry." He thought it more than probable that we were as yet only in the beginning of this wonderful development, and that the industrial chemistry of the future would yield a harvest even more magnificent than it had done in the past.

Dr. George Lunge (Federal Polytechnic School, Zurich) also read a paper on the subject of the teaching of chemistry, in which he put forward the view that the student ought to receive a thorough training in scientific chemistry, taking this in its widest meaning, not merely as a "testing" business. Next to this, but not to the same extent, he should be taught physics, mineralogy, technology, mechanics, and the elements of engineering.

"The Teaching of Chemistry in Evening Continuation Schools" was the subject of a paper by Dr. J. H. Gladstone. A long discussion followed, in the course of which Professor Silvanus Thompson suggested the establishment of monotechnic institutes in districts where there were large chemical industries. For instance, Bermondsey should have a school for instruction in tanning. Later in the discussion it was stated that the Technical Education Board had already started such a school in Bermondsey, and it had proved a great success.

Mr. Gilbert Redgrave read a paper on "The Intervention of the State in Secondary Technical Education." Mr. Redgrave said the training in practical science and in manual work, which had been largely stimulated by State grants, must be regarded as the most important and valuable of the results of State intervention in secondary technical education.

A paper by Professor H. E. Armstrong, on "Chemical Education in its bearings upon Practical Industries," was also read and discussed.

On Wednesday the discussion turned mainly on Trade Teaching.

The first paper read in Section A was one by Sir Philip Magnus, on "Theory and Practice in Trade Teaching." He said the difficulty of determining the true relation of theory and practice in teaching the technology of any trade was shown by the regulations of the Science and Art Department, which applied to the teaching of science in its bearing upon trades, and in the Technical Instruction Act, which expressly prohibited the teaching of the practice of a trade in any technical school. The apprenticeship school, in the author's opinion, was almost a necessary institution in connexion with certain trades. The tailoring trade had suffered for many years from foreign competition, foreigners being largely employed, in consequence of having gained the necessary skill in a tailors' school. The want of such a school was much felt here, but under the Act such a school would be unable to receive any grant in aid from a local authority. An amendment of the Act which would allow such schools being established was highly desirable.

Mr. Sidney H. Wells, Principal of the Battersea Polytechnic, followed with a paper on "The Training of Technical Teachers." In the discussion which ensued, Mr. Mundella said the first thing to be done, before beginning to give instruction to the intelligent workman, was to see that he was properly taught in the elementary school, and that the science teacher should not have to do what was really the elementary teacher's work, which was much more common than the elementary teacher doing the work of the secondary teacher. What they must do was to urge upon Parliament the necessity of raising the attendance at school to the same age and length that prevailed in continental countries.

The Chairman said it was true that the Act set out that technical instruction "shall not include teaching the practice of any trade or industry or employment," but he thought the whole force of the prohibition lay in the word "practice."

Sir Joshua Fitch contributed a paper, in which he urged the need for recognizing the necessary limitations of technical instruction. This could be done in at least two ways—first, by aiming at a higher standard of general intellectual culture in the schools from which the technical schools were recruited, and thus securing a more solid groundwork for special instruction; and the second expedient was to urge, whenever possible, upon each pupil in the trade and evening classes to take up one subject at least which had no direct or visible relation to his trade, but was simply chosen because he liked it, because his own character was enriched and strengthened by it, because it helped to give him a wider outlook upon the world of nature, of books, and of men, and because he might thus prepare himself better for the duties of a citizen or a parent, as well as for an honoured place in the ranks of history.

"A German Technical College from an English Point of View" was the subject of a paper by Mr. Edwin O. Sachs. The remaining papers included one by M. Edouard Sève on "L'Enseignement Technique et Commercial en Belgique," one on "Technical Education in Würtemburg," by Herr von Diefenbach, and one on "L'Enseignement Professionel et l'Initiative Privée en Belgique," by Dr. Oscar Pyfferoen.

Among the papers read in Section B was one by Mr. Harold E. Moore, entitled "County Councils and Practical Training in Agriculture." Mr. F. J. Lloyd, in a paper on "Agricultural Education," expressed the view that the subject of agriculture should form one of the primary subjects of elementary education in rural districts.

The titles of the other papers read before this section were:—"How Best to Encourage Technical Education among the Workmen," by Mr. W. R. Baxter; "Technical Education in Relation to the Electrotyping, Stereotyping, and Process-Engraving Industries," by Mr. Walter Boutall; "Technical Education in Architecture and the Building Trades," by Mr. W. R. Lethaby; "Technical Education in connexion with the Gold and Silver Trades," by Mr. W. Augustus Steward; "Watch and Clock Making," by Mr. T. D. Wright; and "Technical Education in Relation to Glass Manufacture," by Mr. Harry J. Powell.

On Thursday there was an interesting discussion in Section A on the London Polytechnics, in which Mr. Quintin Hogg, Dr. William Garnett, Professor Thompson, Mr. Macan, and others took part. Dr. Garnett, after describing the work of the Technical Education Board in this connexion, admitted that the weakest point in the educational organization of the polytechnics lay in the provision made for literary instruction. The study of "pure literature" could not be aided under the Technical Instruction Acts, and the Science and Art Department had no funds available for its encouragement. As a result of having no funds specially devoted to their support, the literary departments of the polytechnics had not made the same progress as the other departments. An attempt was now being made to remedy this. The Technical Education Board was considering the best methods of aiding the study of economics and other branches of commercial science, while the Central Governing Body of the City Parochial Foundation, acting on the suggestion of the London Polytechnic Council, had increased its contribution to the London Society for the Extension of University Teaching, in order to enable that society to provide courses of lectures and classes in literary subjects at the polytechnics.

The commercial side of education was discussed in Section B, presided over by Sir Owen Roberts. Mr. Eve, Dean of the College of Preceptors and Headmaster of University College School, said that among the lads who crowded into overstocked professions, or were sent to the Universities at a considerable sacrifice only to find themselves stranded at twenty-two, there was a large amount of material which might be utilized for the development of the commerce of the country if a more attractive career were opened to them. We wanted, in fact, an effective machinery for bringing more of the educated ability of the country into the higher walks of business. What Mr. Eve suggested was that great firms should combine to offer a small number of good posts on an examination based upon the ordinary curriculum of schools to lads of eighteen or nineteen, giving a large choice of subjects, and none of them compulsory except arithmetic, a modern language, and English composition. The selected candidates should be required, a few months after this examination, to pass in bookkeeping, and perhaps in shorthand. They should then be taken into commercial offices and placed in positions where they would have the opportunity of learning, and be exempted as much as possible from the drudgery of ordinary clerks. Mr. Eve sketched in detail the line of education which seemed to him to be best adapted for lads leaving school at eighteen, and intended to be officers rather than privates in the army of commerce.

Dr. Wormell recommended the establishment of a complete school of commerce, the work of which should treat of every function used in the production and distribution of wealth. "Such a school is wanted for individual help. Those who would go to it would not require many subjects, and yet the whole demand would be very varied. Each comer should be allowed to pursue only the knowledge he or she individually seeks, and should be helped to it in the shortest possible time under the best possible guidance, and at the least possible monetary cost to himself. He should find there a way to get into contact with those men of business who have the best knowledge of the things, or processes, or methods he wishes to learn. Hence, in addition to a permanent staff the school of commerce should be able to call to its aid for periods long and short, as the case requires, the highest skill, the widest experience, the best business capacity. This plan of securing professional aid from outside the ordinary teaching profession is well known in France. For instance, I found at the College at Saint Cloud that space was provided in the time-tables for lectures and conversations by leading writers, workers, and thinkers of Paris, some being engaged in literature, others being members of the Chamber of Deputies. Such a plan would be a necessity of the school of commerce or commercial institute. The commercial institute should be placed where the clamour and pressure of business put themselves in evidence, where the atmosphere is full of them. In the throngs of trade there seems to be needed a place where the best information and the best trade methods can be obtained; where any kind or system of bookkeeping for any kind of complication whatever can be learnt; where he who wants Spanish or Russian or any other speech can get it taught him at a small cost by the best teachers; where commercial law or commercial lore of any kind can be provided without stint; where he who simply wants to know how to do this, that, and the other can be introduced to him who has already found it out; and, most important of all, where those merchants who are prepared to pay the price can find an employee with all the qualifications they may require."

Mr. Sidney Webb contributed a paper on the "Provision of Higher Commercial Education in London." Higher commercial instruction, he said, must take the form of concrete application to each branch of business, and must therefore be highly specialized. What it needed in London now was encouragement, endowment, commercial support, and University recognition. There should be well chosen lecturers and classes, and big establishments, railways, and other companies should urge their junior employees to attend them. The new University for London ought to recognise the importance of these studies by creating a special faculty of commerce, and the Government should enlarge its grant to University Colleges by including a special sum for institutions giving higher commercial education.

Mr. Stanley Latham contributed a paper on "Bookkeeping," and the other papers submitted were "Rapport sur l'Enseignement Commercial Supérieur en France," by M. Jacques Siegfried; "L'Enseignement des Langues Vivantes," by M. L. Suttle; and "The Present State, Claims, and Prospects of Commercial Education," by Mr. E. Whitfield.

The discussion which followed covered a very wide field, and was replete with important suggestions as to the duties of the Chambers of Commerce and the best methods of teaching foreign languages.—Mr. J. A. Jenkins held that there ought to be established a college of commerce, and that the University colleges should establish faculties of commerce.

On Friday the Congress was mainly concerned with rural and domestic economy. Papers were read in Section A by the Countess of Warwick on "Technical Education in Rural Districts"; by Miss Alice Mitchell, B.Sc., on "Teaching of Domestic Economy in Girls' Secondary Schools"; by Miss Fanny L. Calder, on "Secondary Education in Domestic Science"; by Miss Pycroft, on "History of Training Schools for Teachers of Domestic Economy in England"; by Miss L. Edna

Walter, B.Sc., on "Treatment of Domestic Science as an element in Girls' Education"; and by Miss E. P. Hughes, on "Relation between Technical and General Education, with special reference to the Technical Education of Girls and Women."

In Section B, papers were read by Mr. Jervoise A. Baines, C.S.I., and Mr. Bhownaggree, M.P., C.I.E., on "Technical Education in India: its Conditions and Prospects"; by Dr. Petersen, on "Technical Education in Canada"; by Dr. Mackay, B.A., B.Sc., F.R.S., on "Technical Education in Nova Scotia"; by Sir Wm. C. Windeyer, M.A., LL.D., on "Technical Education in New South Wales"; by Mr. H. F. Eaton, on "Technical Education in Victoria"; by Mr. D. T. Lyons, on "Technical Education in Queensland"; by Mr. F. R. Tranthim Fryer, on "Growth of Technical Education in Tasmania"; and by Dr. Philip Cox, on "Technical Education in New Brunswick."

It may be added that the representatives named by the Council of the College of Preceptors, on the invitation of the Society of Arts, were Mr. Eve, Dr. Wormell, Mr. Stewart, Sir Philip Magnus, and Mr. Sergeant.

CORRESPONDENCE.

SIR R. K. WILSON ON RETROSPECTIVE HISTORY.

To the Editor of the Educational Times.

SIR,—I am indebted to the courtesy of Mr. Malden for a copy of the *Educational Times* of June 1, containing his lecture on the above subject, and, as I also learn from him that he had, still more courteously, endeavoured to arrange for my being invited to hear the lecture and take part in the discussion, I shall be glad if you can find space for a few observations in reply to his criticisms on my article in the *Contemporary Review* of last September.

First, let me recognize with pleasure that he has met me rather more than half way in the practical proposals with which he concludes. He is right in supposing that my main object was to secure due attention to the later periods of history, at the sacrifice, if necessary, of the earlier. And if he can move the Education Department, through the College of Preceptors or otherwise, to sanction such arrangements as will enable their fourth-standard scholars to reach 1688, the fifth and sixth standards to come down to the present time, and the seventh to learn something of current political conditions at home and abroad, a very substantial advance will have been made in the direction of our common goal. It is more than, without his encouragement, I should have ventured to hope for under the depressing conditions of our unwieldy routine-bound system of State education. But in writing my article I had not Board schools exclusively, or even chiefly, in my mind, though I seem to have unwittingly conveyed that impression, and I still fondly cherish the hope that among the teachers of various grades who are not yet engulfed in the official Maelstrom one here and there may be moved to experiment somewhat more boldly than Mr. Malden is prepared to do, and may be able to report favourably of the results. My own experience is too limited to support any confident conclusion, and is not likely to be much increased, so that I must (as I explained in my article) leave the idea to take its chance with responsible members of the teaching profession, and rest content with having pointed out the *a priori* arguments in its favour.

The only two points on which I go beyond Mr. Malden are (1) in insisting that some degree of familiarity with current politics, and with the machinery of modern civilized Governments, should precede the study of any period of history; (2) in doubting the necessity for even a brief summary of early history by way of preparation for that full treatment of more recent periods for which we both hold that time should be found at all costs.

Of course, as Mr. Malden says, present politics are not history; but the question, How should history be taught? naturally suggests the logically antecedent question, When and to whom is it worth while to attempt to teach it? To this question my answer was, and is, Not till the scholar understands enough of the present to perceive that for fuller understanding he must look to the past, just as the proper time to commence the study of algebra is when one has gone far enough in arithmetic to feel the need of more comprehensive formulas. I fail to see what a young person "profoundly ignorant" of his own political surroundings can have to do with either of the two uses of history on which Mr. Malden very properly lays stress: how it can ever occur to him to seek for "guidance as to future possibilities of [political] development," or what "sympathy" (of the political kind) he can be expected to have "with men in different [or in similar] circumstances."

I must leave it to those who have tried both to say whether Mr. Malden does not somewhat exaggerate the difficulty of explaining existing institutions to pupils ignorant of history, and whether he has not greatly underrated the difficulty of imparting really sound and useful notions of history to those who are wholly ignorant of current politics. When I have tried to explain to a boy what Policeman X. stands for, or what is meant by the rate-paper left at the house on quarter day, it has seemed to me that the general idea was soon enough grasped of the sort of work done at Scotland Yard and the Home Office, at Petty Sessions or the Old Bailey, or by County Councils and the Local Government Board; that the subordination of the several heads of Departments to a permanent head of the State—transmitting to them the collective decisions of a Council including most of them, and itself dependent on the support of an elected assembly—required no previous knowledge and no very large expenditure of words to make it intelligible; that the conception was not so very recondite of two competing knots of politicians, each trying to establish by speech and action the superiority of its collective claim to the confidence of the electors; that, when the generally democratic character of the Government was once clearly understood, the facts qualifying that general description—such as the obstructive power still residing in the House of Lords—might be brought into notice simply as anomalies to be remembered, and that any reference to history at this stage would be needless and confusing. When thought has been so far stimulated as to suggest the question whether things might not be better arranged than they are, then will be the time to point out that they not only might be, but have been, very much worse, and that every scrap of sense and justice to be found in the system is traceable to some earnest human effort, some debate, battle, or martyrdom.

On the other hand, if it seems to be easier to describe the state of Britain under Cassivelaunus than the state of England now, may it not be that we pitch our standard much lower? The pupil does not care a rap whether what is told him is true or false, and has no means of checking it; whereas, if I indulge in loose language about an Englishman's house being his castle, a call the next day from the inspector of nuisances may suggest troublesome questions as to the exact meaning and application of that venerable maxim. But, further, if we grant to Mr. Malden that despotism and internecine tribal wars present fewer perplexities to a child's mind than parliamentary government and the concert of Europe, is it desirable to encourage a taste for savagery, or is it not rather worth while to be at some pains to correct it, and to fix firmly the conception of orderly freedom, as realized in the best governed parts of the modern world, at the earliest possible stage of education?

My retrospective survey of the Eastern Question was avowedly a mere indication of the principal heads of a long course of instruction. I said (Commissioners' Report, page 398) that the number of lectures required to fill up the outline must depend on the age and character of the class. If I had to deal with a class of sixth- and seventh-standard boys, supposing them to have already gone through my preliminary course on current politics, but to have no knowledge of any branch of history, I am not sure that I should select the external history of Christendom in preference to English history for their first historical course; but, if I did, I should certainly not expect to carry them back to the Roman Republic, or even to the foundation of Constantinople, in the dozen lessons that I suggested as my minimum. But, wherever my time-table might compel me to stop, I should anticipate no particular embarrassment from having to say from time to time something of this kind: "In order to understand the series of events that I am going to describe (*e.g.*, the conquest of Crete by the Turks in the seventeenth century, itself required to explain the present state of Cretan politics), you must take from me as a fact the bitter enmity then existing between the Greek population of the island and their Venetian masters, equalling or exceeding in intensity the common hatred of both towards the Moslem. The actual differences of usage, and the modes in which this aversion manifested itself, may be illustrated now; the ancient controversies, and the long tale of alternate persecutions, of which it was the outcome, will be explained hereafter, if you stay with me long enough."

At all events I should be no whit better off if I were to begin with Constantine, or with the Christian Era, or the foundation of Rome; nor will Mr. Malden be better off if he begins, as he proposes, with the landing of the Saxons in England, for he will have to deal immediately with the extirpation of Christianity in one form, and its re-introduction a little later in another form, and therefore to meet the inevitable question, What was this Christianity; when and where did it originate? And he will have in addition the still more awkward duty of explaining proleptically that the fuss made about these intrinsically uninteresting savages depends entirely on what the class will at some future time learn about their remote descendants. It is a case, to use his own apt illustration, of the White Queen screaming because her finger is going to be pricked hereafter. In short, the teacher never has the choice whether he will begin at the beginning or at the end, for there never is any "beginning," but only whether he will begin at the end or in the middle.

One word, lastly, about the modern Greeks. I do not propose to re-argue the not very important question whether classical sympathies—or rather, whether ignorance of all that lay between the classical period and Byron—played a mischievous part in the Greek war of independence; but I wish to guard myself against being supposed to attribute any similar aberration to the Philhellenes of 1897. The Greeks of to-day have my heartiest sympathy on their own merits, and, so far as I have observed, the classical irrelevancies have in the present crisis come much more frequently from their detractors than from their friends. What, for instance, could be more lamentable than to

see a scholar and politician like Sir Mountstuart Grant Duff going back to Polybius to prove the inherent depravity of the unhappy Cretans?

Again thanking Mr. Malden for the important service he has rendered to our common cause, I remain, your obedient servant,

Richmond, *June* 13, 1897. ROLAND K. WILSON.

To the Editor of the Educational Times.

SIR,—I am glad to be enabled to say my last word on this subject before your readers have quite forgotten my former contribution to the question.

I am afraid that Sir Roland Wilson and I must be content to differ upon some points: *e.g.*, I am not prepared to admit that early history, properly taught, encourages a taste for savagery, or that acquaintance with the rate collector raises our appreciation of the blessings of civilization.

But I, further, still contend that in England we have the great advantage of being able to begin practically with the beginning; that the English Constitution and the English migrations do break upon us out of a past so misty as to be the domain of scarcely historical science. And I also believe that the Christianity with which our ancestors had to deal began, very definitely, in the year 29 A.D.

This, however, is not the material issue. I take my stand upon the ground that history taught forwards can be made—for it has been made—intelligible and interesting, while it has still to be shown that it can be made intelligible backwards—not from the end, but still, from the middle, only from various points all in the middle, taken step by step backwards.

We are agreed upon the most important parts of history, but I want to take those important parts when the mind of the learner is more matured, and when it has been already exercised upon the subject.

We both, I suspect, share one doubt—whether it is much use trying to teach anybody anything imperfectly in too short a time. I was obliged to infer that Sir Roland Wilson was dealing with elementary scholars, and I dealt with their case. But, whatever course be followed, I suppose that the most we can obtain is this—that we can say to our scholars: Here is a subject which I have shown you to be interesting and important; go and learn it when you have the opportunity hereafter.

A great deal of training can be bestowed on children up to fifteen—invaluable training—but I believe very little real knowledge is acquired till later. If I did not introduce King Charles's head—I mean Greeks and Cretans—into the discussion, I plead guilty to have helped to keep them there, so I must say a word for Sir Mountstuart Grant Duff. I heard the reference in question; I did not merely see it reported. Οὗτος δ' ἔμοιγε παίζειν ἐδόκεε, like Herodotus's Egyptian priest. But some subjects are too sacred for wit. H. E. MALDEN.

Kitlands, Surrey, *June* 19, 1897.

THE MARBURG SUMMER MEETING.

To the Editor of the Educational Times.

DEAR SIR,—Permit me to call your attention to the Holiday Courses that will take place in the University of Marburg on the Lahn, in the month of July, and which may be of interest to some of the readers of your paper, and perhaps induce the one or the other to join them in order to improve or brush up his German.

The meeting will begin on July 5 and end on the 30th. The Course is divided into a French and German part, and the terms for both together are £1.

The Programme of the German Part is:—(1) "Deutsches Wirtschaftsleben in der Gegenwart," by Professor Dr. Rathgen. (2) "Die Erziehungslehre Herbarts und die gegenwärtigen Aufgaben der Pädagogik," by Professor Dr. Natorp. (3) "Religiöse Betrachtungen deutscher im 18. Jahrhundert, insbesondere der Klassiker," by Dr. Kühnemann. (4) "Theorie und Praxis der deutschen Aussprache," by Professor Dr. Vietor. (5) "Übersetzungsübungen. Stilistische Übungen. Übungen im freien Vortrage. Deklamationsübungen. Übungen in mündlicher Unterhaltung."

French Part:—(1) "Voyages d'études en France," by Professor Dr. Koschwitz. (2) "Notions générales de droit français à l'usage des étrangers," by Professor Dr. Lescœur. (3) "Une forme de snobisme au XVIIe siècle: le faux Précieux; les Précieuses Ridicules de Molière," by Dr. Doutrepont. (4) "Trois poètes philosophes: A. de Vigny; Leconte de Lisle; Sully Prud'homme," by Professor Mercier. (5) "Exercices d'ancien français," by Professor Koschwitz. (6) "Principes de phonétique générale d'après la méthode expérimentale," by Professor l'Abbé Rousselot. (7) "La prononciation du français d'après la méthode expérimentale:" (8) "Exercices de diction, d'improvisation et de discussion," by Dr. Doutrepont. Discussion de travaux écrits. Récitation. Conversation.

The undersigned is ready to give all further particulars relative to the above Courses, and also as to board and lodgings.—I am, yours faithfully, A. C. COCKER.

Villa Cranston, Marburg on the Lahn.
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COLLEGE OF PRECEPTORS.

EVENING MEETING, JUNE 16, 1897.

The Chair having been taken by Mr. J. J. Findlay, M.A., R. Wormell, Esq., D.Sc., M.A., read a paper on

THE CLAIMS OF INDIVIDUALITY IN EDUCATION.

Just ten years ago, in the Jubilee year, 1887, I read a lecture here on "Fifty Years of Educational Progress." After the retrospect I indulged in a forecast, and spoke of some dangers that seemed to be looming in the future. I affirmed that we need not fear that the desire for education, which had been fairly aroused, would subside; but that there was danger in the tendency to require all men to pass through the same mould and the same gauge. It seemed that Procrustes was bound to have his victims, the dunces on the one hand being stretched beyond their powers, and the geniuses on the other hand stunted to an average capacity.

The Danger of a Procrustean Education.

I drew attention to this danger in the changed condition of education by describing an analogous change in the philosophy of science. When it was believed that the supply of energy in the universe was being gradually exhausted, men often pictured the end of all things as coming from that ultimate exhaustion. The discovery that energy is transmutable but indestructible was accompanied by the discovery that energy is available for the service of man only in its transformations. If, for instance, all the parts of an enclosed and impervious region had the same temperature, no work could be done between the parts, however high the temperature might be. To get work from heat, we must have bodies of different temperatures. If all the bodies in the universe had the same temperature, there would be neither life nor motion. Similarly, if all men had the same knowledge and skill and exactly similar tastes and temperaments there could be no interchange of ideas, however highly educated each man might be. The theory of the dissipation of energy and the theory of the extinction of individual differences by a Procrustean education are therefore similar and similarly situated, and either of these is sufficient to enable us to see the last man in the dim distance. Hence I pointed out that we ought to resist attempts to produce a dull and dead uniformity by means of education, as we would resist an attack on the life of society itself. Amongst the forms of liberty to be secured the liberty of capacity is not the least important. That combination of laws which we call Nature is allowed at present to assist us by presenting an endless variety as regards natural capacities. To quote from the "Stones of Venice":—"One man is made of agate, another of oak, one of slate, another of clay. The education of the first is polishing; of the second, seasoning; of the third, rending; of the fourth, moulding. It is no use to season the agate; it is vain to try to polish slate; but both are fitted by the qualities they possess for the service in which they are honoured."

It requires but very little reflection to show that one factor of the prosperity of a country must depend on the extent to which individual differences and individual talents, tastes, and powers are developed and utilized. If all were made alike there would be but one excellence, and many would certainly be condemned to uncongenial occupations. As it is there are many excellences. Few there are who could not excel in something, and when each is able to secure that occupation in which he succeeds best, the state reaps the largest harvest from the energies of the people.

Report on the Italian School System.

So much for theory. Evidently theory declares that there is danger in universality. What does experiment say? The

Rassegna Nazionale recently—that is to say, a month ago—had a very remarkable account of the working of the Italian school system, written by Signor Ajroli, a man of position and authority. He tells us that no country revels so enthusiastically in pedagogy and in educational discussion of all kinds, and none is so inefficient in practice, as Italy. "Real education," he says, "is still at a very low level there, and, as a rule, elementary scholars read badly and write worse, while their brains are muddled with smatterings of science. The Government, in its craze for centralization, has attempted to enforce a single educational programme on the whole country, without any regard for local customs, needs, or interests, while the educational experts insist upon time-tables, &c., being altered with bewildering rapidity, in accordance with the latest educational craze." "Certainly elementary education, 'free, compulsory, uniform, and secular,' is not a success in Italy." And I may add it never has been a success anywhere. It may now be asserted, with little fear of contradiction, that wherever Procrustean methods have been tried they have failed to increase the prosperity of the country trying them, and therefore I cannot now say that what seemed to be a rock ahead ten years ago is still a real danger.

Monthly Meetings for Encouragement and Instruction.

Nevertheless, as a principle of method in schools, the need for taking full account of individual idiosyncrasies, and of varying the general treatment as individual conditions demand, is well worth our consideration.

The main purposes of these monthly meetings, I take it, are two—encouragement and instruction. First, that we teachers may encourage each other by taking stock together of the results and difficulties, the plans and prospects, of our work; and, secondly, that the experience which has fallen to the lot of a few may be made available for many. With this view I have accepted the secretary's invitation for to-night. Now we have made some progress in ten years towards a full recognition of the fact that individuality has a claim on our attention. What is the movement for technical education but a consequence of this?

Huxley's Definition of the Aim of Technical Education.

The late Professor Huxley thus described the main objects of the movement:—

"A small percentage of the population is born with a most excellent quality, a desire of excellence, or with special aptitudes of some sort or another. . . . Now the most important object of all education schemes is to catch these exceptional people, and turn them to account for the good of society. No man can say where they will crop up; like their opposites, the fools and knaves, they appear sometimes in the palace and sometimes in the hovel; but the great thing to be aimed at is to keep these glorious sports of Nature from being either corrupted by luxury or starved by poverty, and to put them into the position in which they can do the work for which they are specially fitted. . . . Therefore, as the sum and crown of what is to be done for technical education," says Professor Huxley, "I look to the provision of a machinery for winnowing out the capacities and giving them scope."

Let us look more closely into Huxley's notion that genius should be detected. The question has often been asked, "What forces have acted most powerfully on unfolding genius?" Not a few philosophers have tried to find out how much or how little the recognised apparatus of education has effected in the case of the preternaturally gifted.

Some have traced the influence of the parents, father or mother, others that of the schools. Long lists have been drawn up of eminent men who have distinguished themselves early by their capacity for learning.

Influence of Public Schools.

Lists of public-school men have been arranged, to justify the public-school system and to glorify the schools. Thus one writer, speaking of Harrow, boasts that this school "produced in one half century, among its five Prime Ministers, a Palmerston, a Peel, a Spencer Perceval, and an Aberdeen; and among its statesmen a Dalhousie and a Sydney Herbert; and among its soldiers and sailors a Rodney and a Codrington; and among its poets a Byron and a Proctor; and among its scholars a Parr and a Sir William Jones; and among its divines a Trench and a Manning; and among its common crowd of *alumni* a vast multitude of honourable and useful men." Similar exultations can be declared for other public schools.

Influence of Private Schools.

But Sydney Smith maintained that "the most eminent men in every art and science had been educated in private schools." From the time of Sydney Smith we have had a greater and ever-increasing list of great men who have received all their early education in private schools, and it is not difficult to find support for the view that in private schools individuality is safer of discovery and careful nurture than in public schools.

Failures and Geniuses.

But again, lists longer than any others have presented a terrible array of instances of complete failure. Those whom the schools branded as dunces and blockheads, or expelled as intractable rebels, have subsequently achieved greatness and fame.

But yet a fifth list has been prepared, of the so-called self-taught geniuses, who owe no debt of gratitude to any school system—except that which led them to thank their stars that they were subjected to none.

Shall we say then that genius is independent of educational arrangements, and need not be considered by them? All know this would be a disastrous conclusion. The systems have often succeeded; they have often failed; therefore they need amending; but the right conclusion is that of Professor Sully. He sums up the question as follows: "Does it follow that because the possessor of genius is not well fitted to reap the particular benefits of our pedagogic system he is really independent of educational forces and influences altogether? This is not an uncommon view, and it has much to support it. But such an idea is clearly an exaggeration of the fact. However keen and strong the impulse towards knowledge in a boy, his attainment of it obviously depends on the presence of humanly appointed sources. More than this, it is indisputable that the greatest of men will be the stronger for a wise intellectual and moral guidance in their early years. Would Goethe have been Goethe if, instead of his early home surroundings, with their comparative opulence, their refinement, their various striking personalities, and their carefully thought out plan of education, he had lighted, say, on the environment of a Chatterton? It is nothing less than a profound error to suppose that the plant of genius grows into fruitful maturity whether or no there are kindly influences of sun and rain to play upon it. One would rather say that in a sense a boy or girl possessing the divine flame is more subject to the human forces of his surroundings than the ordinary child."

Elasticity Needed.

Hence the points I wish to maintain are that the duty of the school system, as regards the genius, is that the system shall be so elastic as to provide the training which will bring his special power to the highest state of excellence, and the duty of the schoolmaster is to detect the potential genius, that he may be brought within the proper influences. The strongest expressions on education that I know in our language have been framed to condemn want of elasticity in the curriculum. For instance, Mr. Ruskin warns us not to pour one kind of knowledge on one and all alike, like snow upon the Alps, and to be proud if here and there a river descends from their crests into the valleys, forgetting that we have made the loaded hills themselves barren for ever.

Grades of Schools.

It is not to be expected that any one school, however large, should present all the variety needed. There must be some considerable range and scope in the studies of each school, but the whole provision that is required by the country can be made only by means of a distribution of subjects and aims. Different groups, grades, or classes of schools should take up different portions of the work, each group having its one specific aim. When this arrangement is complete the claims of individuality may be met. No doubt Gray had reason to believe what he said of undetected potential merit in the lines we all learnt as children—

> Full many a gem of purest ray serene
> The dark unfathomed caves of ocean bear;
> Full many a flower is born to blush unseen,
> And waste its sweetness on the desert air.

But the merits of the gem and the flower will no longer be wasted when the search for them is made everywhere by the trained, skilled, and experienced educator.

This leads us to the personal and professional aspect of the case. For this work of selection and discovery the teacher himself must possess that faculty which a botanist or geologist uses when he recognises at a distance an unusual appearance, a

natural object, a plant, for instance, not seen before—one that suggests new uses—one that requires for its healthy sustenance a particular habitat. I am inclined to think that a teacher's most essential qualification is the possession of this power. It has been my fate at times to try to help intending teachers who, in spite of all aids, have utterly failed from beginning to end. In nine of these cases out of ten the failure has arisen from inability to distinguish individual actions, individual conditions. Such men know when the whole class is listless, inattentive, disorderly, but what particular part in this condition is taken by A, B, or C is never found out. Such a teacher may know there are some in his class who do not understand him, but whether M or N understands him he has not the slightest idea. They have to him no individual existence. It is impossible that such should become successful teachers, for the power to see the individual in the mass and to feel and think with the individual is an essential.

Special Treatment.

Again, we have mentioned the frequent failure of the schools to meet the needs of the potential genius. What does this show? That even when, by accident or by the exercise on the part of some one of that faculty we have just described, the genius has been detected, something more is needed. He often requires very special treatment—very special care. His exceptional powers in some matters may have been produced at the cost of great defects in other matters. His furious appetite for some kinds of learning may be accompanied by a feeling that the subjects at which the boy of mediocre parts will work uncomplainingly are galling and insupportable impositions. In fact the unfolding genius often needs to be protected against himself by the exercise of both tact and care.

> Great wits are sure to madness near allied,
> And thin partitions do their bounds divide.

The Over-Sensitive.

Geniuses and many others who are not destined to become geniuses are often over-sensitive. What are we to do with the over-sensitive? Harden them? If we had a scholar known to possess a valvular weakness of heart should we send him to compete in the long races, with the view of strengthening his weak organ? Would not a verdict of manslaughter rightly follow such a course? We may draw an analogy between this and the other kind of morbid sensitiveness.

Within the last few days the daily papers have expressed lay opinions on a case of schoolboy suicide. Such correspondence is generally more amusing than edifying, but there is one out of the many letters which seems to me to be dictated by sound sense, and hits the very "bull's-eye" of my contention. The writer asks: "How far is it possible to save a super-sensitive boy from the consequences of his own organization? What chance is there, under a public-school system, for the boy who, for whatever reason, is 'singular,' as compared with the average and conventional type of British youth?" In answering these questions, the writer first acknowledges the good features of the public schools. He says: "No one but cranks will deny that, on the whole, our public-school system has been justified of its children. It has produced a manly self-reliant race, simple, straightforward and truthful, modest and clean-minded, with a holy abhorrence of cant and rant, and an uncommonly clear—almost a petulant—perception of character. These results are due to a system which creates independence by giving responsibility, and enables men to belong to a governing race by teaching them to govern themselves and one another." The writer then shows how the influence of the headmaster may prevent this governing power from being abused and made irksome to abnormally constituted individuals. He says: "It depends absolutely and entirely upon the chief what is the character of the prefects, and, therefore, that of the school at large. The prefects, who come nearest to him, are quick to catch his manner, his sympathies, his influence, and become, in their way, reproductions of his personality. Everyone can see that if a dreamy, nervous, melancholy boy is allowed to go from bad to worse before the eyes of his schoolfellows, some imputation must rest upon the prefects for their lack, not only of good feeling, but of common sense." This I am convinced is the righteous view. There must be an eye to discover over-sensitiveness, and there must be a resolution emanating from the head, but permeating the prefects and all in authority, to prevent all malevolent sporting with this peculiarity.

A Weak Faculty may be Nursed into Strength.

But the prospective genius is having too much of our time. Let our thoughts become more general, and especially take in those who have any given faculty in less than normal or average strength—so little strength, for instance, that it certainly can never be made remarkable. Does the fact that a particular faculty exists only in the merest germs relieve the schoolmaster of the duty of fostering and cultivating it? The special and careful nurture of a weak plant that nevertheless may be designed to fill a particular place in the general economy is the demand of individuality in such a case. Take music as an illustration. Some persons have good ears and good voices; some without training would never be able to see any difference between "God Save the Queen" and "The Old Hundredth," and never to reproduce a note of given pitch. Yet in Yorkshire I have often heard the children of a very large school almost without exception singing accurately and with expression from sight under the patient teaching and leading of Tonic-sol-fahists. It has then seemed to me that that system has set an example with regard to the development and general treatment of a weak faculty. The key of the success lies in connecting individual attention with collective exercise. The same method is sometimes found in art. I have heard persons say: "I could not draw a stroke until So-and-so took me in hand."

The Religious Faculty.

There is another faculty in regard to which individuality presents a two-sided claim. It exists, naturally, in different persons with very wide variations of intensity, but, in most cases, by attention to the individual conditions it may be developed. It manifests itself by reverence for good, noble, and holy thoughts and for sacred thoughts and things, by a spirit of devotion and by certain qualities which bring to their possessors much calm contentment and power of endurance, and make a man or woman having them a perpetual source of happiness to others. I shall not be misunderstood if I call it the religious faculty. Seeing how much of the influence and happiness of life are dependent on its possession, I have no doubt it is the schoolmaster's duty to cultivate it in all his pupils. Probably, in most cases, he may not be required to consider the particular form its application is afterwards to take, any more than he is required to consider, when he begins his labours to awake intelligence, the particular occupation or profession in which the pupil is to apply that intelligence. But *he* will have a very lame notion of his duties who tries to send out creatures in other respects intelligent but absolutely lacking reverence and devotion. But the due cultivation of this faculty requires a double attention to individualities. In the first place, the individual differences as regards the faculty are so wide that no wholesale treatment will be sufficient. In the second place, the time and circumstances must be suitable, and the treatment really called for, and not forced; so that this work cannot be wholly placed in certain fixed squares of the time-table.

A suitable occasion for the teaching may crop up in any lesson on any subject. I may mention an illustration which has for nearly forty years served me as a kind of pattern. In 1859 I was one of a class studying formal logic. No subject surely could, in its nature, be less likely to encourage the kind of lesson we are considering; yet the opportunity came. The correct forms and modes of hypothetical syllogisms had been considered, and a number of examples of fallacious reasoning had been collected from known authors. Then, at the end of the lesson, the principal's manner and tone of voice were altered, and we all knew something more serious was coming. He said there was a hypothetical syllogism drawn correctly in the last three verses of the sixty-sixth Psalm. He asked: Why did not David state the conclusion? The answer was sought in other passages of the Psalms, and then the lesson ended with a quotation from Old Thomas Fuller:—

> I find David making a syllogism in mood and figure. Two propositions he perfected:—
>
> "18. If I regard wickedness in my heart, the Lord will not hear me.
>
> 19. But verily God hath heard me, he hath attended to the voice of my prayer."
>
> Now I expected that David should have concluded thus:—"Therefore I regard not wickedness in my heart." But far otherwise he concludes:—
>
> "20. Blessed be God that hath not turned away my prayer, nor his mercy from me."
>
> Thus David hath deceived, but not wronged me. I looked that he should have clapped the crown on his own, and he puts it on God's

head. I will learn this excellent logic, for I like David's better than Aristotle's syllogism, that whatsoever the premises be, I make God's glory the conclusion.

I venture to say that in that class there was not one who felt the digression was out of place, and there was no one whose feelings of reverence and devotion were not stimulated by the manner and matter of the illustration.

Women's Education Special.

I have just time for reference to one other claim of individuality, namely, the special claim of women. The gifts and graces of men and women differ. There is no need to weigh them one against the other. The task would be as difficult as that of instituting a comparison between the services which great poets and great painters render to their countrymen. It is sufficient to know that the world is richer than it would be if both these services were welded into one, and it is the richer when women have free scope for their special powers, and when education aims at developing the special faculties they have received, not for themselves, but for humanity—treasures of tenderness, sympathy, reverence, faith, and purity. To women great ideals are natural. They have capacities for teaching, training, and elevating beyond anything we have hitherto used. Let us develop and utilise their precious endowments.

Corporate Unity and Individual Function.

Thus you see I am advocating two kinds of elasticity, the first secured by dividing the work of education amongst schools of different types and grades, and the second by permitting the customs, methods, and courses of each school to take account of individual needs and conditions. My suggestions in no way tend to disturb the unity of our great and increasingly important profession. Let us have corporate unity by all means, but corporate unity together with individual function. It is the latter that will preserve the necessary variety. It is the latter that will maintain the availability of the talents of the people, and will avert the peril of an equally diffused, and, therefore, unproductive civilization.

I have one concluding remark to make on the second point, namely, the encouragement of insight into individual temperament. I admit that the best rewards of this subtle craft will not be found in measurable results and marketable achievements. They cannot be tried by direct and present tests, but will be seen in the life of the coming age. Yet I firmly believe that he is happiest in the work of teaching who does not pine for immediate results, but will be content if he finds what he has cast upon the waters after many days.

Mr. Wilson said that when he first saw the title of the lecture the thought occurred to him that preaching on the claims of individuality to an audience of English teachers looked like sending coals to Newcastle. With our free institutions and great variety of schools, public and private, and, moreover, there being no European society in which individuality was so prized or so safeguarded by law and custom as our own, it would seem at a first view that any shortcomings our education might be chargeable with could not be set down to ignoring the claims of individuality. But no doubt the lecturer, with his great experience, had formed a truer estimate of the needs of the time. It might be that, looking into the dim and distant future, when the recommendations of that Royal Commission of which he was an important member should have received the force of law, he was not free from apprehensions that individuality would not fare so well then as now—that, in fact, they might be approaching that condition of things which they had so often heard typified by a Minister of Education pulling out his watch and telling his visitor that at that particular instant a certain subject was being taught in every school in the country. Such a result of all our educational legislation would indeed be disastrous. To avert its consummation no better way was open than by inducing teachers generally to form a just appreciation of the claims of individuality in education, and the lecture they had just heard was a valuable contribution to that end. In human nature, as in nature universally, there was a propensity to variation—some variations being worse, some better, than the prevailing type. The all-important matter was to recognise the better variations as they arose, and put them under the conditions most favourable to their development, so that they might yield to the individual and the community the greatest good they were capable of. Here lay the crux of the matter. There was no merit in individuality *per se*—it might be mere oddity, eccentricity, or crankiness, and nothing more; but, on the other hand, there might be concealed under such superficial appearances real talent or genius, great intellectual or spiritual gifts. The difficult function of the teacher was to see that these were not crushed or suppressed by rules and practice otherwise essential and necessary. Every rule, whether of school discipline or of ethics or law, aimed at bringing about uniformity of conduct within the sphere of its operation. Classification also aimed at uniformity—the bringing of pupils into groups of the same intellectual capacity to be taught in common. Undoubtedly teaching power was thus economised, but it might be doubted whether the ideal aimed at was apt to make the teacher detect and appreciate originality. School tradition, too, was calculated to make against individuality within the particular school dominated by it. A great headmaster stamped his authority on a system or curriculum which came in the course of time to be defective and retarding; but his great name kept it in vogue, and there was no power lodged anywhere to remedy this, unless his successors were strong enough to break with the past. If ever the State took over the direct control of secondary education, it would be necessary to provide for the periodical revision of educational methods and curricula, so as to keep all schools abreast of the best practice of the time in the domain of education at home and abroad.

Mr. Smurthwaite thought it was well that teachers should have pressed upon them the importance of developing the individuality of the pupils, especially in these days, when the constant pressure of preparing for examinations made it doubly difficult to give free play to individual aptitudes. As they knew, some boys had a particular liking for particular studies, and through their love for these they might be induced to underrate other studies, equally useful, but not so attractive. He instanced the case of a boy who was devoted to the study of chemistry and mechanics, but disliked learning to read, and who was only induced to pay attention to reading by the hope of being able more easily to pursue his favourite studies. He considered that in private schools there was more opportunity for this development of individual talent than in public schools.

The Rev. J. T. Christie thought that the lecturer had touched upon one of the greatest defects in the education of the present day. He remembered a remark made by his college tutor in reference to a statement in an essay written by him (the speaker) in which he had described John Stuart Mill's education as in some respects narrow and defective: viz., that in his (the tutor's) opinion, John Stuart Mill had received "the most perfect education a man could have." It seemed to him that the lecturer had forcibly presented the reasons why the opinion of the Oxford tutor must have been correct, for John Stuart Mill, under the teaching of his own father, strikingly evidenced the effect of individual dealing with individual characteristics, with the imperfections as well as the brilliant qualities of the pupil. In the case of John Stuart Mill, the teacher, by daily contact with him in hours of leisure as well as hours of work, had the most ample opportunity for cultivating every side of his pupil's character as well as every leaning of his mental qualities. In his case almost everything that could be drawn out (for this was the real meaning of education) *was* drawn out, in character as well as in mental capacity. He should have liked to hear more as to the way in which the system of teaching Dr. Wormell advocated could be carried out, as it seemed to him that, with the enormous pressure of subjects and the straining of timetables to bursting, no teacher could more than very partially carry out the idea of the lecturer.

Mr. Shipham could not agree with the remarks of a previous speaker that in private schools there was more opportunity for detecting and developing the individuality of the pupils than in public schools. It seemed to him that success in dealing with individual differences must depend on the number of pupils in the class. If it were assumed that in private schools the average number of pupils in a class was smaller than in public schools, then, of course, individual differences might be more successfully dealt with, but this was the only basis on which such a claim could rest.

Mr. Orchard said that the theory of uniformity in education was as false as Lyellism had lately been shown to be in geology, and a teacher who attempted to ignore individuality was ignorant of the first principles of his art. Without individuality there might be movement, but could not be progress. Differentiation belonged to all living organisms. In the familiar phrases—"a dead level," "a dead uniformity"—the adjective was rightly placed. Individuality, with its special features and needs, should receive its due place, and be treated, not as a nuisance or an obstacle, but in such a way that the welfare of each pupil should be promotive of and promoted by that of all the others. The problem how to unite harmoniously an individual pupil's claims and interests with those of the whole class and those of the whole school might be described as the scholastic equivalent in our day of the ancient philosophical problem of "The One and the Many." Attempts at solution had proceeded mainly on one of two lines. The many were to be sacrificed to the few—the geniuses, the brilliant, the stars of the school—or else the few were to be sacrificed to the many. Public schools had been thought to have commonly followed the first method, whilst private establishments had frequently adopted the second. To point out the imperfection of both methods was easy; it was quite another matter to supply an effectual remedy. Two things blocked the way: the vice of the class system, and that of the examination system. With many recommendations, class teaching had the drawback of impeding that careful investigation, detection, attention, indispensable for doing justice to the capacity and needs of any par-

ticular child. In proportion as more of a teacher's limited energy and time were devoted to these, less would be available for the class as a whole. Then our examination system did not—perhaps could not—take account of "the personal equation." He approved the suggestion of the paper as to the grouping of schools for purposes of specialization, and it seemed desirable to specialize early. Also, much might be effected by appealing to those religious intuitions which were concerned in the relations between the human spirit and the Deity. These religious intuitions were common to each individual pupil. The wise class-teacher would aim at combining the private tutor with the schoolmaster.

Mr. Anderson considered that boys ought not to specialize before they were seventeen or eighteen years of age, as, whatever their individual tastes might be, the undue cultivation of particular faculties could only result in imperfect education and a general stunting of the boy's general intelligence. The object of school work was rather to evenly develop all a boy's faculties, so that he might be better equipped to undertake his special work in life. It was, of course, important that a teacher should have a thorough grasp of any subject he might be teaching, so that he could make it clear to every average intelligence in his class. He did not think that the lecturer's suggestion of instituting grades or groups of schools would meet the difficulties of dealing with the claims of individuality in education.

Dr. Wormell having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A meeting of the Council was held at the College, Bloomsbury Square, on the 19th of June. Present—Dr. Wormell, Vice-President, in the Chair; Rev. J. O. Bevan, Mr. Bowen, Mr. Brown, Mr. Butler, Mr. Charles, Mr. Chettle, Dr. Dillon, Mr. Eve, Mr. Harris, Rev. Dr. Hiron, Mr. Montgomery, Mr. Pinches, Rev. Dr. Poole, Rev. Dr. Robson, Mr. Rule, Rev. W. J. Savell, Mr. Sergeant, and Mr. Stewart.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the number of entries for the forthcoming Certificate and Junior Forms Examination was about 7,200.

Saturday, the 24th of July, was fixed as the date of the next Ordinary General Meeting of the members of the College.

The Report of the Examination Committee was adopted.

The Report of the Teachers' Training Committee was adopted, and a Memorandum presented by the Principal of the Training College was ordered to be printed and circulated.

The Draft Report of the Council to the General Meeting was considered, and referred to the President, Vice-Presidents, and Dean for final revision.

The following persons were elected Members of the College:—

Mr. J. J. Lake, A.C.P., The Grammar School, Horley, Surrey.
Mr. J. Massingberd Teale, Cavendish School, Matlock.
Mr. T. H. Penson, L.C.P., Ascham House School, Reading.
Miss L. F. Ramsey, A.C.P., Boscombe High School, Bournemouth.
Miss E. J. Warren, A.C.P., Froebel House School, Weymouth.

The following books had been presented to the Library since the last meeting:—

By G. Bell & Sons.—Masterman's Age of Milton.
By Blackie & Sons.—Palmerston Reader, Book I.; Raleigh History Reader, Book VI.; Chambers's Milton's Samson Agonistes.
By C. J. Clay & Sons.—The Books of Joel and Amos (Cambridge Bible).
By W. B. Clive.—Don's First Stage Sound, Light, and Heat.
By Macmillan & Co.—Barnes' Practical Acoustics; Hall's Fourth Verrine of Cicero.
By the Roxburghe Press.—Allen's Gladys in Grammarland.

REVIEWS.

Philip and Alexander of Macedon.

Philip and Alexander of Macedon. Two Essays in Biography. By D. G. Hogarth. (Murray.)

It is not surprising that Mr. Hogarth has produced two admirable monographs. His theme is in itself of no ordinary interest, and he possesses to a conspicuous degree the qualities necessary to enable him to treat such a theme worthily. There are many dangers amid which a biographer needs to tread warily. To the biographer of Alexander the Great perhaps the greatest danger to be avoided is losing himself in a morass of military details. For example, we must confess that we find Benedict Niege's "Geschichte der Griechischen und Makedonischen Staaten" for the most part unreadable because the author appears to lack altogether the power of applying the facts and drawing out of them their moral; and it is, therefore, with some relief that we find Mr. Hogarth pronouncing Niege's work "too summary and too little critical." (In the note on Niege at page 168 the reference to his book should be page 169, not page 161.)

Mr. Hogarth is at his best in the delineation of character, whether of peoples or individuals. As instance of the former we choose his sketch of the Thebans in the fourth century B.C., as it happens to possess a special interest as an illustration of the curiously different conclusions that two writers can draw from the same evidence. "The Theban of the fourth century (with certain brilliant exceptions) was of an animal type, common in aristocratic states. Generations of his forefathers had devoted every energy of mind and body to the pleasures of the flesh. . . . A full-blooded boisterous race, proud of their past, they were determined to enjoy the present. Born to domineer, and bend to their purposes all who could subserve their pleasures, they became a menace to their neighbours whenever they needed space for their healthy stock, but bounded ambition by the satisfaction of appetite. For the barren glory of leading Hellas they cared not a jot. They despised commerce as men who know that their internal resources are amply sufficient to supply internal wants. Handicraft they held beneath the dignity of gentlemen, and denied a magistracy to a citizen if he had followed a trade within ten years. Their capital lay near good harbours on three seas, but only once sent out a fleet, and a contemporary historian [Ephorus], who saw Thebes at her highest and her lowest, remarks that she might have been leader of Greece, had she not neglected, in the cultivation of warlike valour, the gentle arts of literature and converse with men," This is a very different estimate from that given by Professor Rhys Roberts in his sketch of "The Ancient Bœotians," and we fear that, as an estimate of the people at large—apart from the "brilliant exceptions" on whom Professor Roberts lays so much stress—Mr. Hogarth's version is the truer.

It is with a masterly hand that Mr. Hogarth outlines the character of the two Macedonian kings. We must content ourselves with a quotation from his character of Philip:—"Nature has given him a frame of iron, and the Pythagorean doctors the habit to nurture it hardly. . . . 'What a man,' said Demosthenes after his death, 'had we to fight! For the sake of power and dominion he had an eye thrust out, a shoulder broken, an arm and a leg mortified. Whichever member fortune demanded, that he cast away, so the rest might be in glory and honour.' His intellectual force was of the first order, his perception as rapid and certain as the action which followed it. The width of his sympathies, coupled with a radical insincerity of character, enabled him to adapt himself to all things and all men—to talk with Aristotle, or to drink to excess of good fellowship with boors and braves." Thus admirably does Mr. Hogarth bring out the strange contrasts in the king's character—contrasts that find their parallel in the fifth Philip of Macedon, and suggest to one that his great predecessor, too, had his bad angel and his good, if not—as Polybius tells us of the later monarch—among his counsellors, then at least warring in his own soul.

The matter of the book is not less admirable than the manner. Frequently Mr. Hogarth steps aside to pluck up some common error by the way. The service that he thus renders to the history of the times may be illustrated by a few pregnant instances. Such are the statements that "it is a grave error in historical perspective to represent Philip as engaged consciously during all his reign in a great duel with Demosthenes"; and the warning that the group of great orations known as the "Philippics" and "Olynthiacs" "is not to be taken too seriously." "The fortification of Elatea by Philip was manifestly the reasonable precaution of a prudent general. If it menaced any city, that city was Thebes"; and again: "Had Macedon never arisen, the city of Athens probably would not have been very different at the end of the fourth century from what actually she came to be." This last judgment is, indeed, none too severe, for through a century—a long period in the life of a city state—there had existed and had daily increased in Athens the symptoms of deadly disease, having their origin in that moral "shamelessness" which, warmly as Pericles might deny its existence, was but too openly proclaimed from the comic stage even in his day, and was certain ultimately to affect the conduct of the people as a nation. It would have been strange, indeed, if Demosthenes had been anything more than a voice crying in the wilderness. We will add but one more example of Mr. Hogarth's perspicacity:—"To claim for Alexander that he conceived the regeneration of the world by the Hellene is sheerly

absurd; to suppose that thus early [as 334 B.C.] he foresaw altogether even what Hellenes would effect for his own selfish end of empire, is to rank him with the Prophets."

Child Culture.

The Kindergarten System; its Origin and Development as seen in the life of Friedrich Froebel. Translated and adapted from the work of A. B. Hauschmann. By Fanny Franks. (Swan Sonnenschein & Co.)

In the preface to this very interesting volume Miss Franks states that it is an adaptation rather than an actual translation of Mr. Hauschmann's book. It is, in fact, a life of Froebel, with special reference to the growth of his ideas and methods down to the establishment of the first kindergarten. Although the intellectual debt he owed to Krause and Pestalozzi is clearly indicated, it is the special merit of the book that it brings out the character of this extraordinary man as the chief source of his influence. From the time when, a badly-taught and unlucky boy, neither understanding himself nor understood by others, he endeavoured to fit himself for farming by learning geometry, to the time when, at the close of his original career, he founded his school for mothers, Froebel seems driven by some divine *afflatus*, beckoned by some unseen hand; it was this union of enthusiasm and absolute conviction with a logical method that enabled him to impress those with whom he came in contact. Men left all and followed him. As other prophets, he had little to offer his disciples in this world. The times were unpropitious. To be considered a free-thinker, an atheist, a revolutionist, was the fate of one who was filled with religious feelings, whose main object was to train children to the duties of citizenship. It must be admitted that some of his failures were due to want of business tact. To build up a successful school a man must have some of the qualities that make a successful merchant. To Froebel his methods and his ideas were more than bread. Parents were offended and withdrew their children, Government became suspicious and suspended his schools, and this a little tact might have prevented. No master was better served than Froebel, but Miss Franks admits that "he expected no less than absolute self-annihilation on the part of his colleagues."

But, though not successful as a manager, in the class-room or in the play-ground Froebel was in his element. He became a teacher by accident; his description of his first day in a large class-room is this: "I felt like a fish in water, a bird in the air, perfectly at home in my work, and as if I had always been a teacher." As a thinker on education he was equally happy from the beginning. At the age of twenty-five he had formulated his ideal: "The object of education is the realization of a perfect humanity." In some of his methods he was greatly influenced by Rousseau, as in the part to be played by external nature on education. The words might have been his own:—

> One impulse from a vernal wood
> May teach us more of man,
> Of moral evil and of good,
> Than all the sages can.

One of the pleasantest features of this volume is the frequent description of the surroundings of Froebel's various schools, and of the excursions taken by his fortunate pupils. The glow of an Alpine sunrise lights up Miss Franks' pleasant pages. Kingfishers dart about the streams, lilies and ascension flowers blossom on the hills, foxes and owls and deer are to be found in the valley, and lizards and salamanders dart about the street in the queer pretty old-world villages where Froebel thought out and worked out his noble conceptions of the teacher's vocation, of the family-life of schools, and, lastly, of that magical "garden" where little children grow like plants under the care of a "skilful gardener."

How Froebel passed from the work of teaching boys to the special work with which his name is connected, and thence to the education of girls and mothers; how he superadded to Pestalozzi's principle of *Anschauung* "his own special doctrine of *Darstellung*, or *living out* that which has been *taken in*; how he lived and loved and was beloved; how he was thwarted and disappointed continually, and never lost hope or ceased working till the Prussian Minister of Education, Von Raumer, crushed the life out of him by shutting up his schools, on the ground that they were dangerous; how he died, and how his labours are now bearing fruit an hundred-fold, must be left for the reader. Miss Franks' book is distinctly an acquisition to the literature of the kindergarten.

For the Teacher's Bookshelf.

Arnold of Rugby: His School Life and Contributions to Education. Edited by J. J. Findlay, M.A. With an Introduction by the Bishop of Hereford. (Cambridge University Press.)

The latest recruits of Arnold's Rugby are sexagenarians, and of those who lived with him in the School House or stood around his desk, his sixth form and the men whose expanding careers he watched with solicitude or pride, very few remain amongst us. The legend is passing, the tradition will soon be at second-hand. It is well, at such a moment, not merely to renew for a younger generation one of the more familiar figures of the Thirties and Forties, but also to give conciseness to his record, and to utilise it by such an abstract and epitome as Mr. Findlay has given us in this compact little volume. It is only, indeed, as an abstract of this kind that Mr. Findlay could have claimed the attention of the educational world for a book on Dr. Arnold, who has been particularly fortunate in his biographers; and, this being so, we may say at once that we are greatly indebted to the editor for a work which we are glad to have upon our shelves. It is a lucid and well-conceived study of Arnold's place in the history of English education, and of his contribution to the theory of education as a science and an art. The psychologists of our time can render us no better service than by combining with their own studies the collection of materials for the use of future students. It should be part of the necessary equipment of a secondary teacher that he should possess an adequate knowledge of the biography and work of the most distinguished schoolmasters, and we should rejoice to see the present volume succeeded by others of a similar kind. Perhaps two hundred and fifty pages are not too many to devote to Arnold; the same space might suffice for two or three such men as Butler of Shrewsbury, Butler of Harrow, Kennedy of Shrewsbury, Lee of Birmingham, Thring of Uppingham, Moberly of Winchester, Benson of Wellington—a list which, of course, may be easily extended.

After Mr. Findlay's thoughtful preface, we have a fine appreciation by the Bishop of Hereford; a biographical notice, consisting mainly of extracts from Stanley's "Life," and from some of Arnold's letters to his friends; a description of school life at Rugby, also taken from Stanley's "Life"; selected sermons preached in Rugby Chapel and elsewhere; essays on educational topics, from Arnold's miscellaneous works; an excellent bibliography of works relating to Arnold's influence as a teacher, and to public-school education before and after his time; and an analytical index, which at once doubles the practical use of the book to students. Dr. Percival's Introduction is a singularly clear and discerning estimate of a schoolmaster who was not in himself particularly broad-minded as a teacher, but whose aim was "above all to awaken and to strengthen moral and religious purpose and aspiration"—to Christianize the English gentleman, as Dr. Martineau put it, and that with a Christianity which should not be satisfied with emotion, but should rest on reasoned conviction and a constraining sense of duty. Dr. Percival concludes that—

> school life, amidst present tendencies, greatly needs the influence of Arnold's Christian idealism. The growth of wealth and luxury, to say nothing of other causes, has infected schools, as it has infected society at large, with a sort of epicurean materialism.

Altogether, the student will obtain from this volume a true and vivid picture of Arnold as a man and as a teacher. He will understand how Arnold, being what he was, could not have taught otherwise than as he did; and with this understanding spirit he will be more likely to profit by discerning the strong and the weak points of the Rugbeian than to fall into a mere imitative hero-worship. That, we imagine, is the effect which Mr. Findlay desired to produce.

Satire and Romance.

(1) *The Prose Works of Jonathan Swift, D.D.* With a Biographical Introduction by W. E. H. Lecky, M.P. Vol. I. (Bell & Sons.) (2) *Harold, the Last of the Saxon Kings.* By Lord Lytton. With Introduction and Notes by George Laurence Gomme. (Constable & Co.)

Here are two excellent reprints of English classics, ably edited and well printed. We might have hesitated to call "Harold" a classic, but we do not quarrel with Mr. Gomme's description of it as the best of Lytton's works (at any rate of his historical novels). There is less question about the classical character of Swift, and Mr. Temple Scott, who edits "A Tale of a Tub" and other pieces, is content to add a few notes here and there, which

are always to the point. Indeed, Swift needs little annotation. He is to be taken or left—taken with satisfaction and understanding, or left without regret. He was a man of many moods and qualities, not all consistent with each other, some of them infinitely repulsive, others just as infinitely attractive. His books inform and strengthen and divert the mind, but they are apt to brutalize it in the process. We do not read all of Swift; we do not follow him through all his moods. But this volume can all be read, for it contains, in addition to the "Tale of a Tub," a "full and true Account of the Battel fought last Friday between the Antient and the Modern Books in St. James's Library," the "Contests and Dissensions in Athens and Rome," and "Thoughts on Various Subjects." It is not the satire of Swift which troubles his reader, for he tells us himself that—

> Satire is a sort of glass, wherein beholders do discover everybody's face but their own; which is the chief reason for that kind reception it meets with in the world, and that so very few are offended with it.

Swift's epitaph in Dublin Cathedral, written by himself, affirms: "Ubi saeva indignatio cor alterius lacerare nequit." It is not his scorn that hurts a simple-minded reader.

Mr. Lecky's biography, first written in 1861, has been rewritten and amplified for its present use. It is extremely calm and lucid, and deals with the psychological and physical problems of the Dean's life in a reticent yet thoroughly candid manner. The story of Stella and Vanessa seems perfectly natural as Mr. Lecky tells it, though we scarcely understand why he leaves the marriage with Hester Johnson in the guise of a mere conjecture. Certainly none of Swift's biographers has made us more disposed to leniency of judgment towards "that valuable, indeed incomparable, man," of whom Pope wrote to Lord Orrery, after a friendship of twenty-three years, that his sincere love

> will accompany him through life, and pursue his memory were I to live a hundred lives, as many of his works will live which are absolutely original, unequalled, unexampled. His humanity, his charity, his condescension, his candour, are equal to his wit, and require as good and true a taste to be equally valued.

It was Pope, also, who addressed him in the familiar lines:—

> Oh! thou, whatever title please thine ear—
> Dean, Drapier, Bickerstaff, or Gulliver;
> Whether thou choose Cervantes' serious air,
> Or laugh and shake in Rabelais' easy-chair;
> Or praise the Court, or magnify mankind,
> Or thy grieved country's copper chains unbind.

Mr. Gomme's "Harold" is prefaced by an interesting and a very serviceable introduction, which throws floods of light on the historical period, on the character and career of the last Saxon king, on the author and his story. The glossary and notes are excellent in the same sense; and the illustrations from the Bayeux Tapestry and other sources are particularly welcome. This is an admirable edition, and sets a worthy model for the editor's coadjutors in a series of English historical fiction.

The Study of Nature.

"Organized Science Series." Edited by William Briggs, LL.B., &c.—*First Stage Physiography.* By A. M. Davies, B.Sc. (Clive.)

Mr. Davies has written an excellent volume on physiography, to suit the requirements of candidates in the elementary stage at the May examination of the Science and Art Department. The syllabus of 1896 encourages the student to spend one year on the laboratory-study of the elements of mechanics, physics, and chemistry, and a second year in observing the external aspects of nature, which may be included in the general term invented by Huxley for this phase of nature-study, and which involve the elements of astronomy, meteorology, and geography. This is the inverse process of that recommended by Huxley, who sent the inquiring mind to school in the Thames Valley, bade him study the stars, the clouds, and the earth, and then build up on his groundwork of observation a detailed physical knowledge of the substances underlying the phenomena. It is the old alternative between the method of analysis and the method of synthesis, between the resolution of bodies into their elements and the pursuit of natural forces converting material elements into developed bodies. The post-Huxleian organizers of science cannot lay claim to any incontestable superiority for their scheme of work; for though they argue that construction is in the course of nature, and that they follow this course when they begin in the laboratory and proceed by development to the terrestrial and celestial bodies, it is equally true that the course of nature may be witnessed in dissolution and destruction—that the analysed star or cloud or hill reveals to us the substance from which it was built up.

But the business of Mr. Davies in writing this book was to take the syllabus as he found it, and to follow it with as little deviation as possible. His first six chapters treat of matter, motion, energy, power, heat, and the chemistry of the earth. That is the first section, as South Kensington has willed it; and chapter vii. (page 70) starts without preamble on an entirely new course of observation and deduction:—"Looking upwards on a clear night, we see ——," &c., &c. Earth, stars, sun, the seasons and divisions of time; the atmosphere, wind, rain, water, and its operations; the crust of the earth; igneous and sedimentary rocks, and the movements of the crust—these are the divisions into which the subject naturally falls; and Mr. Davies deals with each in turn, carefully defining as he proceeds, and stating his results with admirable conciseness. Thus, "Energy can no more be destroyed than matter can; it can only be transformed"; "Every rock bears impressed on its structure some sign that it has had a history—that it has not always been what it is now." Simplicity of exposition is one of the best features of this satisfactory little text-book, which will be found thoroughly suited to its purpose. Another good feature is the addition to each chapter of a series of helpful questions, with references to the corresponding text. It would not be right to omit a word of well-merited praise to Mrs. Davies for her very successful illustrations. She has not only drawn the figures, whether suggested or original, but also engraved the woodcuts.

The Revolution Century.

"Handbooks of English Literature." Edited by Professor Hales.—*The Age of Milton.* By the Rev. J. H. B. Masterman, M.A. With an Introduction by J. Bass Mullinger, M.A. (Bell & Sons.)

Professor Hales had entrusted the preparation of this volume in his handy and well-designed series to Mr. Bass Mullinger: but the latter was prevented by stress of other work from completing his task. In many respects the reader will have no great cause to regret the substitution of Mr. Masterman as literary chronicler of the Age of Milton. His survey of the Caroline, Commonwealth, and early Restoration literature is masterly in its way; he does full justice to Milton—his seventy pages on the poet and his works being, indeed, largely based on Masson; and his chapters on the classicists, the latitudinarians in theology, the historians, and the Cambridge Platonists, are all good reading. In respect of Hobbes, he rightly points out that it has been left for James Mill, Hume, and most of all Sir William Molesworth, to do justice to the psychology and political philosophy of "The Leviathan." Early in the eighteenth century, as well as in his lifetime, Hobbes was under the ban of the orthodox. Pepys has an entry on September 3, 1668:—

> To my booksellers for Hobbes's "Leviathan," which is now mightily called for, and what was heretofore sold for 8s., I now give 24s. at the second-hand, and is sold for 30s., it being a book the Bishop will not let be printed again.

The introduction of Mr. Mullinger is perspicacious and valuable: without it the mere literary chronicle would lose half its point. The theology and even the poetry of the seventeenth century depend largely on their association with the prevalent partisanship of the age, in politics and in religion. The fire, force, and eloquence of Milton and his contemporaries spring mainly from the fact that they were strongly pronounced as Roman or Protestant, as Latin or Teutonic, as Anglican or Puritan. When Milton was young, Romanism was in the ascendant, and the Puritans were exiling themselves to America. When he was middle-aged the King and his instruments went under, and the Puritan was supreme. When he was old the after-effects of open strife and revolution were working themselves out by inevitable law, in a medium of compromise or indifference. Soon after the middle of the century, religious and emotional excess had almost burnt itself out, and the seed sown by Bacon had germinated; his "science of a better and more perfect use of reason in the investigation of things," triumphing over the heat of prejudice and the smoke of persecution, brought a new vigour and inspiration in the minds of thoughtful men.

> As the glow of national pride and exultation [says Mr. Mullinger]

that characterized the later years of Elizabeth's reign grew faint amid the sense of national disaster and humiliation resulting from the Civil War, its place as an inspiration was in some measure supplied by that new sense of advancing knowledge—of triumphs won by the achievements of science in a less perishable domain—which was destined not merely to restore to England her ancient fame, but widely to extend her material power. The many followed whither the master spirits led. The study of Nature, in its varied fields of investigation, became not only a widely extended pursuit but a fashion.

Here, in fact, we have the keynote of "the age of Milton." The emphasis of English history in the seventeenth century is all for the two great revolutions which secured our religious and our civil liberties. But no less important of its kind was that third revolution of thought and intellect, which began with Bacon and ended with Newton and Locke. Newton went to Cambridge in 1660; but already at Oxford the Philosophical Society had been meeting in the rooms of Dr. Wilkins at Wadham College; and in London the Gresham College lectures attracted men like Robert Boyle, Seth Ward, William Petty, and Dr. Wallis. This was under Cromwell; but one of the first acts of Charles II. was to dignify this "fashion" of the day by incorporating the *coterie* of Gresham College as the "Royal Society of London for improving Natural Knowledge."

A French Cynic.

Rameau's Nephew. A Translation from Diderot's Autographic Text. By Sylvia Margaret Hill. (Longmans.)

"Rameau's Nephew" has a curious history, which has been told both by Carlyle and by Mr. John Morley. It is an imaginary conversation between the philosopher and the eponymous hero, a loose-minded rascal-about-town, possibly a creation of the author's, though Rameau himself, whether uncle or not, was a real personage, who wrote a great deal on the theory of music, and on the superiority of French to Italian music, a century and a half ago. In this somewhat corrosive satire, Diderot lashed the vices of his day (1760), even if he did not lampoon a number of innocent or comparatively innocuous persons. Satire was very outspoken in that age, but the Encyclopædist himself shrank from publishing this diatribe, which he may have written to solace or relieve his own mind, leaving the responsibility of printing it to his executor Naigeon—who apparently decided to leave the manuscript undisturbed. Schiller, by some unexplained chance, obtained a copy of the work, and showed it to Goethe, who forthwith translated it into German. Carlyle, always glad to find himself on the side of Goethe, spoke of the Frenchman's *jeu d'esprit*—if the satire is not too mordant for a *jeu d'esprit*—as "decidedly the best of all Diderot's compositions," which is, perhaps, excessive eulogy.

> It looks like a sibylline utterance from a heart all in fusion, and no ephemeral thing (for it was written as a satire on Palissot) was ever more perennially treated. . . . It is a farce-tragedy; and its fate has corresponded to its purport. One day it must also be translated into English: but it will require to be done by "head"; the common steam machinery will not properly suffice for it.

Rameau the younger is a typical Mascarille—a personification, therefore, of a characteristic French type; not the "gentleman's gentleman," the valet turned pander, the smart and serviceable Dromio, but himself a gentleman who has graduated in all the arts of rascaldom, a loose-tongued crafty-souled scamp, a plausible sycophant, versed in every scandal of the town, a cynic, a parasite, and a philosopher. It is a sprightly character, and the satire is a sprightly piece of work. One laughs at Rameau and hates him at the same time; and, since we must come from Rameau to Diderot, it must be confessed that our admiration of his genius is increased, whilst our respect for his philosophic breadth and calm is diminished. He had not read his Molière for nothing; but Rameau is a distinct creation, and we could have been content to accept this dialogue as a literary masterpiece if it did not involve so much bitter and probably unjust satire on his contemporaries.

Miss Hill has given us a good translation; certainly she has done it "by head," though it has not quite the style of an original. Her notes are ample and helpful, displaying plenty of reading and care. Now and again she has turned sick at the *grivoiseries* of this precious Rameau, and has declined to reproduce them. We cannot blame her. Her alternative would have been not to translate the book at all; but what we have here is certainly welcome as it stands.

Empire Studies.

(1) *Glimpses of our Empire.* By Robinson Souttar, M.P. (Hodder & Stoughton.) (2) *The Victorian Era, a History of the Queen's Reign.* By P. Anderson Graham. (Longmans.)

Mr. Souttar's bright little sketch of the growth of Greater Britain is prefaced by some well-timed observations on the value of national modesty. "England did not create the habitable globe," he says; "she did not even discover it." The factors that have chiefly brought about her present eminence are geographical position and free trade. This text is briefly expounded in a series of short chapters on mediæval trade routes, and the influence of the discovery of the Cape route to India and of America in shifting the centre of gravity; on the race of the European nations in colonial enterprise, and the reasons why Portugal, Spain, and Holland dropped out and left France and Britain to compete alone; on the causes of the final withdrawal of France.

The author's dislike of national glorification is here remarkable. After speaking of the seven wars with France that we waged in the eighteenth century, each of which "resulted in Britain's getting a little more," he adds—

> It was no particular discredit to the French. It was no particular glory to the British. The French were as brave as we, and their management of Canada inclines us to believe that they were not less fit to govern a colonial empire. But France has no ocean rampart, and her mind, distracted with ambitions at home, could not afford time for the consideration of interests abroad.

This sentiment seems to be generous, but justice comes first, and when we remember how France treated her early settlers in Canada and her great administrators in India, and what her "ambitions at home" ultimately led to, we are inclined to think that Mr. Souttar gives away his country unnecessarily. The latter half of the book deals largely with the glorification of free trade, with the loss of the American colonies, and with the growth of South Africa and Australia. A chapter headed "Shall we lose our Colonies?" seems a little unfortunate. The author is of opinion that when the Colonies are called on to contribute to the relief of the burdens they have brought on the mother country they will at once strike off all dependence. Events during the last few weeks have demonstrated in this matter how unwise it is for a prophet to prophesy before he knows. We all recollect the magnificent passage where Burke speaks of the ties of kindred blood, of equal privileges, of equal protection, "which, though light as air, are as strong as links of iron." To Mr. Souttar "the strongest link that binds" the colonies to us is that "they can borrow money at three-and-a-half per cent."

(2) Messrs. Longmans send us a handy book of information on the domestic and political progress of the country during the past sixty years, setting out with a couple of maps of the empire in 1837 and 1897. There are no fewer than seventy-five illustrations in this concise and useful little volume, which is something more than an ephemeral reading-book to catch the fancy of the hour. The text is comprehensive, and in the main correct and accurate; the illustrations are unequal in merit, but mostly good.

SHORT NOTICES.

CLASSICS.

Thucydides, Book VI., by E. C. Marchant, is the latest volume of Messrs. Macmillan's excellent "Classical Series for Colleges and Schools," and it will be welcomed by teachers who have already used the editor's previous contributions to the same series. The introduction and notes are, like all Mr. Marchant's work, admirably lucid, for, whilst he spares no pains to give his readers the benefit of whatever is best and most recent in German and other commentators, his own treatment of the principal *cruces* of his author is invariably sane, and almost as invariably conclusive. As an illustration of his unwearying efforts at completeness (so far as completeness can properly be aimed at in a school edition), it may be mentioned that Mr. Marchant has availed himself of the labours of Hude, the Danish editor of *Thucydides VI.–VIII.*, whose text he substantially adopts, though in a spirit of greater conservatism. This edition is inscribed: "Fridorico Gulielmo Walker, viro nulla egenti laudatione; et Juventuti fido et literarum studiosae."

The Fourth Verrine of Cicero, edited for schools by F. W. Hall, M.A. (Macmillan & Co.), is a scholarly piece of work, and, as there has hitherto been no separate edition of the speech in English, the book fills a gap. The lengthy introduction supplies all the information that

can be required for the understanding of the trial, as well as a valuable section on the MSS. Mr. Hall shows an intimate acquaintance with the literature of his subject, and his notes leave nothing to be desired. It should be added that the book contains a very useful archæological appendix, in which the information to be obtained from the most recent authorities is collected in a convenient form.

Cæsar's Gallic War, Book IV., edited by John Brown, B.A. (Blackie & Son), is a continuation of Mr. Brown's capital edition of Cæsar for middle forms. The illustration of the bridge over the Rhine faces the text, by a plan which is fully justified by the difficulty of the subject. Altogether the book, with its excellent introduction, notes, exercises, and vocabulary, deserves hearty commendation. The demand for editions that contain a series of exercises based on the text would appear to be considerable; but we cannot help doubting whether boys learn much Latin from working these exercises unless care be taken by the editor to see that the idioms shall be repeated again and again in the course of the series.

Xenophon and *Æschylus* are reprints from Messrs. Blackwood's "Ancient Classics for English Readers." Both volumes needed revision and bringing up to date, but neither advantage have they received. Hence the remarks on such ordinary points of dispute as the "Constitution of Athens" and the plot of the "Agamemnon" are altogether behind the times. It should have been recognized that classical scholarship is not a stationary thing, and that what did very well a quarter of a century ago now needs overhauling.

Livy, Book VI., is an addition to Messrs. Clive's "University Tutorial Series." It is a handy and complete volume, and the introduction and notes are well adapted to their purpose.

SCIENCE.

(1) *Text-Book of Geology.* By W. Jerome Harrison. (Blackie & Son.) (2) *Section I.: Physiography.* By T. Cartwright. (Nelson & Sons.) (3) *Through a Pocket-Lens.* By H. Scherren. (Religious Tract Society.) (4) *Practical Acoustics.* By C. L. Barnes. (Macmillan.) (5) *Dynamos and Electric Motors.* By P. N. Hasluck. (Cassell & Co.)

(1) It is not often that the writer of an elementary text-book on geology succeeds in being less than twenty years behind date, and we may therefore congratulate Mr. Harrison on producing a work which will probably, in 1907, still be ahead of most of its rivals. It is pleasing to think that, at last, even the beginner can learn the results of modern research on the delimitation of the Cambrian and pre-Cambrian systems, and escape being dogmatically taught that *Eozoon* and *Oldhamia* are fossils; though we could wish that the frog-like Labyrinthodon had also been consigned to limbo. Open-air geology is not relegated to the usual paragraph in the preface, but valuable hints are given to the reader who may be fired to study in the field; and information is given as to the Geological Survey Maps. Many of the illustrations are original photographs of English scenery illustrating important geological features. Altogether the book is a thoroughly sound piece of work, and will fulfil its purpose well.

(2) This work covers that part of South Kensington Physiography which is not Physiography at all, but a smattering of Physics and Chemistry. It will be serviceable to those students who are preparing for "Section One" only, as a great many doubtless will in coming years, but it shows no features of startling novelty. On the other hand, some familiar South Kensingtonisms persist in it; *e.g.*, the unscientific and misleading division of radiant energy into "dark heat energy," "visible energy," and "invisible chemical energy"; and the lengthy explanation of chemical action, even to Avogadro's law, before an experiment is suggested. The latter, however, is hardly a defect from the examination point of view. The illustrations are clear and plentiful, but what purpose is served, *e.g.*, by having four figures of different substances burning in oxygen (p. 154) we do not see.

(3) The object of this excellent book is to dispel the superstition that a compound microscope is essential to the study of plant and animal structure. We can testify to the need for such enlightenment, for we have known students who have been through courses of Botany and Geology (of the modern laboratory type), and who have afterwards been suddenly astounded by the discovery that they can see the familiar structures with a lens without the necessity of elaborate preparation, having always had a dim notion that a microscope magnified a million times or so. The author takes a number of common examples of Arthropods, and shows how much can be made out of their structure by a hand-lens. The usual charge made against "Natural History" books, that their scientific ideas are antiquated, cannot be made against this one, and we gladly recommend it for all boys with a taste for natural history unspoiled by the laboratory.

(4) This continuation of Stewart & Gee's course of Practical Physics contains instructions for a series of experiments on longitudinal wave-motion and vibration, the sonometer, Lissajou's and Chladin's experiments, the compound pendulum, sensitive flames, &c. Though strictly a laboratory manual, the theoretical meaning of the various experiments is not omitted. The book maintains the high standard of its predecessors.

(5) The editor of *Work* has here brought together the information on dynamos scattered through the pages of that periodical. The usefulness of such information in a handy form is obvious in these days of electric lighting. The descriptions are illustrated by an abundance of simple diagrams. Some of these would be more satisfactory if the measurements on them were put in plainer figures, for it is not always easy to be sure of the fractions of an inch.

READERS.

The Red True Story Book, edited by Andrew Lang (Longmans), is adapted for school use as a reader for the fifth to the seventh standard, and the boys and girls who come across it are much to be envied. The contents include "Wilson's Last Fight"—somewhat sanguinary reading, perhaps, for schoolboys and schoolgirls—"The Life and Death of Joan the Maid," "The Burke and Wills Exploring Expedition," "Sir Richard Grenville," "Peter Williamson," "How Marbot crossed the Danube," and "The Conquest of Peru." These are all very stirring narratives, certain to arrest the attention, and the language is good and simple. The life of Joan is enthusiastic, as for instance:—"There is no word nor deed of the Maid's, in captivity as in victory, that is not to her immortal honour." "The English were hideously cruel and superstitious. There is dishonour in plenty; let these false Frenchmen of her time divide their shares among themselves." But, on the whole, this story-book, with Mr. Ford's forty-one illustrations, is excellent.

From Messrs. Blackie & Son we have Book I. of *the Palmerston Readers*—quiet moral tales and poems, some anonymous, others from Coleridge, R. L. Stevenson, Jennett Humphreys, and Björnson, with a coloured frontispiece. The same publishers provide a story of the reign of Queen Victoria, as Book VI. of the *Raleigh History Readers*. Mr. J. H. Rose is responsible for the text, which is quite suitable for its purpose.

Book II. of the *St. George History Readers* (Nelson & Sons) is a "book of beginnings," a series of stories from British history, from "the first inhabitants of Britain" to "the first Empress of India," with a good portrait of the Queen as frontispiece.

MISCELLANEOUS.

Grammar explained according to the Order of Ideas. By Rev. J. A. Dewe. (Elliot Stock.)

One more lapse into the pitfall of "new and original" English Grammar. This brave effort to be final in the statement of definitions and classifications, and to be authoritative in a domain where autocracy cannot be admitted, contains much that is valuable; but, from the beginning of the world until now, any one can trip up a grammarian. For instance, "There are many who define abstract nouns . . . as the names of things which we only conceive of in our minds as having a real [*sic*] and independent existence. The consequences of such a definition would be that these so-called abstract qualities are mere fancies, nothing more. Whereas we have defined them as names of qualities which have a real existence, but one that is dependent upon the thing to which they belong." Clearly Mr. Dewe makes no advance on his predecessors: he marks time, but his body gets no forwarder. Paper is white or red when the paper absorbs particular rays of light; that which absorbs is real, and we could even concede that the absorbed rays are real, but when Mr. Dewe uses the word "qualities," he gives himself away. Let us pose him. Is *quale* real? That is to say, does it point to an actual thing, or only to a likeness of things? Mr. Dewe has evidently conceived a quality in his mind as having a real and independent existence.

Harvard Stories. By W. K. Post. (G. P. Putnam's Sons.)

Mr. Post's book contains mere "sketches of the undergraduate" of a great American college. A Harvard man himself, he gives us his own impressions of the normal life in the College. He has succeeded in his modest aim, and produced a very amusing and readable collection of tales. The book, moreover, was well worth producing, if its object was only to show the essential identity of collegiate life in England and America, as far as the leading Universities are concerned. We are afraid, however, that those who turned horror-stricken from "The Babe, B.A.," will be similarly vexed at "Harvard Tales," and will even wonder what are the uses of such institutions as the great Universities on either side of the Atlantic. As a matter of fact, Mr. Benson and Mr. Post are very near the truth in the pictures they draw, for the foreground, if we may call it so, of life in the old resident Universities is unmistakably frivolous. Men do "read," but they do not read in an obtrusive and ostentatious manner, unless they are reckless of general opinion—as of course many are. Common sense, as usual, is somewhere between the two extremes. Mere idleness is sad, but who will deny that mere laboriousness is also somewhat sad? One of the most instructive points in Mr. Post's volume is the divergence of idiom which is revealed between the American undergraduate and the English. We might almost say that the chief distinction between them is that they speak different languages. Sometimes, indeed, the American slang baffles us.

"The Cambridge Bible for Schools and Colleges." Edited by A. F. Kirkpatrick, D.D.—*The Books of Joel and Amos.* Edited by S. R. Driver, D.D. (Cambridge University Press.)

An excellent and typical volume of this English annotated Bible.

The introduction and notes are full of serviceable information. The personal life of the two prophets, the analysis of their writings, their characteristics and literary qualities, are treated in the thorough spirit to which Dr. Driver has accustomed us. His additional notes on points of special difficulty are very helpful, and the illustrations add much to the value of the book.

Chambers's Recitation Book for Infant Schools and Classes. (W. & R. Chambers.)

A volume of nicely-printed rhyming verses suitable for little children. Some of the pieces are arranged as games, in which each child takes a short part: a useful instance is the piece called "Form," in which the figures square, circle, triangle, &c., are made by the children changing places. Some of the recitations are instructive, *e.g.*, "How Glass is made"; others are on less difficult subjects, and are adapted to illustrate object-lessons and encourage observation. All the pieces have a good rhythmical swing, and are written in good taste.

A New Manual of Method. By A. H. Garlick, B.A. (Longmans.)

This very sensible manual, which may be looked upon as a sort of pupil teachers' *vade mecum*, has run into a new edition. Speaking from memory, the main, if not the only, new feature is an appendix of forty pages, simply added to the old text, with a separate index of contents. The subjects treated in this appendix are school economy, class teaching, object lessons, kindergarten, with additional suggestions on arithmetic, reading, history, and English.

St. John in the Desert: an Introduction and Notes to Browning's "A Death in the Desert." By the Rev. G. U. Pope, M.A., D.D. (Frowde.)

A curious, yet by no means uninteresting, little book, which, in the opinion of the writer, "unlocks the great master's soul." Browning's poem, at all events, is worthy of study, and Dr. Pope throws much light upon it, but his method can scarcely be called educational.

The Christ in Shakespeare: a Reading from the "Merchant of Venice," &c. Interpreted by Charles Ellis. (Houlston & Sons.)

This is a "Victorian Edition" of a sufficiently curious book by a Shakespeare enthusiast, who is prepared, in the spirit of an old Aristotelian, to find "all truth in Shakespeare," and who has certainly found a number of more or less close parallels to Scripture.

Handbook to the Educational Section of the Victorian Era Exhibition. Edited by the Countess of Warwick. (Edward Arnold.)

Though unpretending in form, this little handbook is full of useful notes on the progress of education, and the educational achievements of women, during the reign of Queen Victoria. Mr. Sadler leads off with some brief introductory notes in chronological order—a correct record of considerable value—and amongst other contributors are Mrs. H. Sidgwick, Miss A. Rogers, Mrs. Bryant, Miss Day, Miss E. P. Hughes, and Dr. R. D. Roberts.

The Annals of England, in Verse and Rhyme. By George Norman Hester. (Chapman & Hall.)

This is an unpretentious and a well-intentioned book, nothing less than a rhymed history of England in octosyllabic couplets. The writer claims that his verses are patriotic, and of course he tacks himself on to the Diamond Jubilee. We are not going to make fun of him; if anyone wants an English history in rhymed couplets, this will be good enough for his purpose.

We have also received the following publications:—

School Ophthalmia: a Paper read before the Medical Officers of Schools Association, by Sydney Stephenson (Churchill)—a valuable survey of the more acute forms of ophthalmia, illustrated with microphotographs.

A Practical Guide to English Composition and Essay Writing, by W. Stewart Thomson, M.A. (Simpkin & Co.)—a fifth edition.

The Student's Self-Instruction Book in Vertical Writing, and *Left-Hand Writing*, by John Jackson (Sampson Low).

LITERARY GOSSIP.

The list of Jubilee honours includes no name specially eminent in the world of education, and not many whose distinction is wholly or mainly intellectual. Two historians are decorated, one being Lord Acton and the other Mr. Lecky, M.P. Other names in the list are those of Dr. Bridge and Dr. Martin, the organists.

Mr. E. L. Godkin, editor of the New York *Nation*, receives the degree of D.C.L. from the University of Oxford.

The Seeley Memorial Committee have decided to hand over the sum raised to the University, on the following conditions:—That £50 be appropriated from the capital to provide for the cost of striking a bronze medal to be called the Seeley Medal. That out of the income a sum of £3. 3s. be paid annually to provide one Seeley Medal, to be awarded in each year by the adjudicators for the Thirlwall or Prince Consort Prize, as the case may be, for that year. Candidates for the Thirlwall or Prince Consort Prize who send in a dissertation on some subject dealing with international policy during some period not earlier than A.D. 1648, such subject having been previously approved by the adjudicators for the Thirlwall or Prince Consort Prize, shall be eligible for the Seeley Medal, but the medal shall only be awarded to a dissertation which, in the judgment of the adjudicators, is worthy of the Thirlwall or Prince Consort Prize. It is proposed that the remainder of the income from the fund be paid over annually to the librarian and committee of the Historical School Library to purchase books, on the understanding—(*a*) that the library be called henceforth the Seeley Historical Library, but that the books formerly contributed by Professors Symonds and Smith be in some way distinguished as a separate collection; and (*b*) that the books to be hereafter purchased out of the income of the Seeley Memorial Fund have some distinctive and appropriate mark. The subscribers also present to the University the replica of the original portrait of the late Professor Seeley, which, they suggest, might for the present be deposited in the Fitzwilliam Museum until the University possesses a suitable historical lecture-room. The Council of the Senate recommend that the offer be accepted.

Cambridge is still up to date in some respects, as witness the two following theses for the coming year:—Powis medal for Latin hexameter verse: "Thessalia." Sir William Browne's medals: Greek Ode, Ἡ Ἑλλὰς ὑπὸ τῶν βαρβάρων κεχειρωμένη.

The annual report of the Cambridge Museums and Lecture-rooms Syndicate records with sorrow the loss of Professor Sir G. Humphry, who had been connected with the scientific work of the University for nearly half a century. The whole of his scientific library, part of which he had placed in the museums during his lifetime, has been presented by his widow to the surgical department.

The Rev. Thomas Wiltshire, M.A. Trinity College, Cambridge, Professor of Geology and Mineralogy at King's College, London, has presented to the Woodwardian Museum his valuable scientific library, consisting of about six hundred volumes, and nine hundred pamphlets. Professor Wiltshire studied geology under the late Adam Sedgwick, and graduated in 1850 as a Senior Optime in the Mathematical Tripos.

The family of the late Charles Robert Darwin, M.A. of Christ's College, Cambridge, have presented two historic collections to the University, viz., the geological specimens found during the voyage of the "Beagle," and a series of slides used in the preparation of his monograph on the Cirripedia. The former has been placed in the Museum of Geology, the latter in the Museum of Zoology.

Mr. William K. Hill, late Headmaster of the Kentish Town School, Fortess Road, has assumed the editorship of our contemporary, *The Educational Review.*

A TESTIMONIAL TO MR. W. J. C. MILLER.

Mr. Miller's many friends will have heard with great regret that he has been compelled by illness, and by the absolute necessity of rest, to bring to a close his long association with the special feature of "Mathematics" in the *Educational Times.* At the same time he resigns his post as Registrar of the General Medical Council. Mr. Miller's mathematical work in our columns, which was to him, in the best sense, a labour of love, has been carried on without intermission for a period of about forty years.

Some of his friends and contributors think that this is a fitting occasion for recognizing the value of his services, and presenting him with a small token of esteem. A watch, bearing a suitable incription, with a purse of gold, would, it is believed, be an acceptable gift, and this is the form the testimonial will take. A fund is being raised for the purpose, and the Rev. Robert Harley, M.A., F.R.S., Rosslyn, Westbourne Road, Forest Hill, S.E., has undertaken the office of Treasurer. Any contributions sent to him will be at once acknowledged. The Hon. Secretary of the Fund is Mr. Geo. S. Carr, 4 Ladbroke Crescent, W.

Numerous, rather than large, subscriptions are desired, the object being to show Mr. Miller how widely his work is appreciated. More than twenty years ago the late Professor W. K. Clifford testified to the "very great ability, tact, and energy," with which Mr. Miller had "conducted the mathematical part of the *Educational Times*, which portion," he said, "notwithstanding its unpretending shape, has done more (I believe) to suggest and encourage original research than any other European periodical." In the same letter he speaks of himself as "having been Mr. Miller's pupil, through the medium of the *Educational Times*, for the last twelve years." Other mathematicians, more recently, have borne similar testimony, acknowledging their personal indebtedness to Mr. Miller, especially in having inspired and directed

their early efforts. Many of his correspondents, including some men of the highest eminence, such as Clifford, Cockle, Cayley, and Sylvester, have passed away, but a goodly number remain, and, judging from the response already made, there is reason to anticipate a gratifying result.

The following is a Second List of subscriptions :—

	£.	s.	d.
R. Wormell, D.Sc., Roydon, Ware	1	1	0
Miss Phœbe Allen, Keden, Bonchurch	0	5	0
J. Brill, M.A., Norwich	1	1	0
H. Fortey, M.A., Clifton	1	1	0
R. Knowles, B.A., Tottenham	0	10	6
Donald MacAlister, M.D., D.Sc., Cambridge	1	1	0
H. B. Billups, Sandown	0	2	6
Artemas Martin, LL.D., Washington, U.S.A.	0	10	0
J. C. St. Clair, London	1	1	0
C. E. Hillyer, Cambridge	0	10	6
Charles Bickerdike, Castleford	0	10	6
W. W. Rouse Ball, Cambridge	0	5	0
Rev. G. Richardson, M.A., Winchester College	0	10	6
A. P. Southee, Ramsgate	0	5	0
Prof. G. B. Matthews, F.R.S., Bangor	0	10	6
J. G. Smyly, M.A., Dublin	0	10	6
Rev. J. Cullen, B.A., S.J., Stonyhurst	0	5	0
Rev. J. L. Kitchin, M.A., Exeter	0	10	0
Charles Burt, J.P., Richmond-on-Thames	1	1	0
Frederick R. J. Hervey, Worthing	0	5	0
Prof. Struthers, M.D., LL.D., Edinburgh	1	1	0
Ven. Archdeacon Wilson, M.A., Rochdale	0	10	6
Sir James Paget, Bart., M.D., F.R.S., London	1	1	0
A. E. Eve, M.A., Marlborough College	0	10	6
Prof. Everett, D.C.L., F.R.S., Belfast	0	9	0
Rev. D. Thomas, M.A., Garsington, Oxford	0	5	0
W. Y. Fletcher, F.S.A., Kew	1	1	0
Mrs. Maxwell, Richmond-on-Thames	1	1	0
Prof. J. C. Malet, F.R.S., Dublin	1	1	0
G. G. Storr, London	0	10	6
Mrs. Galliers, Torquay	0	5	0
W. J. Dobbs, M.A., London	0	5	0
Prof. B. O. Peirce, LL.D., Harvard University, U.S.A.	0	8	2
Prof. A. Macfarlane, D.Sc., LL.D., Lehigh University, U.S.A.	0	8	2
John O'Regan, Limerick	0	10	6
H. W. Curjel, B.A., Warrington	0	10	6
Geo. Heppel, M.A., Ealing	0	10	0
Sir John Simon, K.C.B., F.R.S., London	1	1	0
Major-Gen. P. O'Connell, Cheltenham	1	1	0
Lionel A. Olive, Ventnor, Isle of Wight	1	1	0
J. Macleod, M.A., Elgin	0	10	6
Prof. James McMahon, LL.D., Cornell University, U.S.A.	0	8	2
W. J. Johnstone, M.A., Aberystwyth	0	5	0
Rev. James White, M.A., Bromley College, Kent	0	5	0
R. F. Scott, M.A., St. John's College, Cambridge	1	1	0
W. J. Greenstreet, B.A., Stroud	0	10	0
Rev. C. Taylor, D.D., Master of St. John's College, Cambridge	1	1	0
B. Williamson, D.C.L., F.R.S., Trinity College, Dublin	1	1	0
Morgan Jenkins, M.A., Tunbridge Wells	0	10	6
A. W. Scott, M.A., St. David's College, Lampeter	0	10	6
Rev. T. Mitcheson, B.A., Wimbledon	0	5	0
Prof. Chas. Hermite, Membre de l'Institut, Paris (25f.)	0	19	10
W. W. Taylor, M.A., Oxford	0	10	6
Professor Genese, M.A., Aberystwyth	0	10	0
F. S. Macaulay, M.A., St. Paul's School, London	0	10	6
Prof. Esson, F.R.S., Oxford	1	1	0
W. B. Allcock, M.A., Emmanuel College, Cambridge	0	10	0
Lieut.-Col. Campbell, Charing, Kent	1	1	0
K. S. Putnam, M.A., Chamberlain, City of Rome, New York ($1)	0	4	1
Right Hon. Lord Rayleigh, D.C.L., F.R.S., Witham, Essex	1	1	0
Prof. H. Langhorne Orchard, M.A., B.Sc., Hampstead	0	10	6
Prof. A. Droz-Farny, College de Porrentruy, Switzerland	0	5	0

MATHEMATICS.

13493. (Professor Neuberg.)—Résoudre le système d'équations

$$\sin x \cos y = c, \quad \sin y \cos z = a, \quad \sin z \cos x = b.$$

Solution by W. E. Jeffares, B.A.

We have $\cos y = \dfrac{c}{\sin x}$; $\therefore$ $\sin y = \left(1 - \dfrac{c^2}{\sin^2 x}\right)^{\frac{1}{2}} = \left(\dfrac{\sin^2 x - c^2}{\sin^2 x}\right)^{\frac{1}{2}}$;

$\sin z = \dfrac{b}{\cos x}$; $\therefore$ $\cos z = \left(1 - \dfrac{b^2}{\cos^2 x}\right)^{\frac{1}{2}} = \left(\dfrac{\cos^2 x - b^2}{\cos^2 x}\right)^{\frac{1}{2}}$;

$$\left(\frac{\sin^2 x - c^2}{\sin^2 x}\right)^{\frac{1}{2}} \cdot \left(\frac{\cos^2 x - b^2}{\cos^2 x}\right)^{\frac{1}{2}} = a; \quad \frac{(\sin^2 x - c^2)(\cos^2 x - b^2)}{\sin^2 x \cos^2 x} = a^2;$$

$$(\sin^2 x - c^2)(\cos^2 x - b^2) = a^2 \sin^2 x \cos^2 x;$$

$$\sin^2 x \cos^2 x - c^2 \cos^2 x - b^2 \sin^2 x + b^2c^2 = a^2 \sin^2 x \cos^2 x;$$

$$\sin^2 2x - 2c^2(1 + \cos 2x) - 2b^2(1 - \cos 2x) + 4b^2c^2 = a^2 \sin^2 2x;$$

$$(a^2 - 1)\cos^2 2x - 2(c^2 - b^2)\cos 2x - \left\{(a^2 - 1) + 2(b^2 + c^2) - 4b^2c^2\right\}\cos 2x$$
$$= \frac{c^2 - b^2 \pm \left\{(a^2 + b^2 + c^2 - 1)^2 - 4a^2b^2c^2\right\}^{\frac{1}{2}}}{a^2 - 1};$$

$$\therefore \quad x = \tfrac{1}{2}\cos^{-1}\frac{c^2 - b^2 \pm \left\{(a^2 + b^2 + c^2 - 1)^2 - 4a^2b^2c^2\right\}^{\frac{1}{2}}}{a^2 - 1}.$$

Similarly, $$y = \tfrac{1}{2}\cos^{-1}\frac{a^2 - c^2 \pm \left\{(a^2 + b^2 + c^2 - 1) - 4a^2b^2c^2\right\}^{\frac{1}{2}}}{b^2 - 1},$$

$$z = \tfrac{1}{2}\cos^{-1}\frac{b^2 - a^2 \pm \left\{(a^2 + b^2 + c^2 - 1) - 4a^2b^2c^2\right\}^{\frac{1}{2}}}{c^2 - 1}.$$

13492. (Professor Crofton, F.R.S.)—Prove that

$$(x + y + z)^3 - 9(x^2y + y^2z + z^2x)$$

is resolvable into three linear factors.

Solution by Rev. Robert Harley, M.A., F.R.S.

Writing $x + u$ for y, and $x + v$ for z, the given function takes the form

$$(3x + u + v)^3 - 9\left\{x^2(x + u) + (x + u)^2(x + v) + (x + v)^2 x\right\},$$

which reduces to $(u + v)^3 - 9u^2v$, or $u^3 - 6u^2v + 3uv^2 + v^3$, a cubic in u and v. A linear factor of this cubic, found in the usual way, is

$$u - \left[2 + \left\{3(2 + \alpha)\right\}^{\frac{1}{3}} + 3/\left\{3(2 + \alpha)\right\}^{\frac{1}{3}}\right] v,$$

where α is an unreal cube root of unity, say $\frac{1}{2}\left\{-1 + \sqrt{(-3)}\right\}$; or replacing u and v by $y - x$ and $z - x$ respectively, we have

$$(y - x) - \left[2 + \left\{3(2 + \alpha)\right\}^{\frac{1}{3}} + 3/\left\{3(2 + \alpha)\right\}^{\frac{1}{3}}\right](z - x).$$

The other two linear factors of the given function are

$$(y - x) - \left[2 + \alpha\left\{3(2 + \alpha)\right\}^{\frac{1}{3}} + 3\alpha^2/\left\{3(2 + \alpha)\right\}^{\frac{1}{3}}\right](z - x)$$

and $$(y - x) - \left[2 + \alpha^2\left\{3(2 + \alpha)\right\}^{\frac{1}{3}} + 3\alpha/\left\{3(2 + \alpha)\right\}^{\frac{1}{3}}\right](z - x).$$

4329. (W. B. Davis, B.A.)—The highest power of any number published is Mr. Shanks' power of 2 to the 721st power. How may this be verified? Answer—By dividing it by 127, you will get a remainder 1, if you copy it correctly; which may be easily remembered. Objection—This only implies a "*juste rapport*" of 3 in the last place, and a do. for 2 is by no means uncommon. How then is it possible to obtain a verification; or can we obtain absolute certainty in this matter?

Solution by K. S. Putnam.

Such "proofs" are really only tests. If the result does not stand the test, it is wrong. If it does, it may still be wrong. Another test for any power of 2 is by "casting out the nines." Divide the index by 6, and note the remainder. If the remainder is 0, the excess in the power should be 1; if remainder is 1, excess is 2; if 2, excess is 4; if 3, excess is 8; if 4, excess is 7; if 5, excess is 5.

To *prove* 2^{721}, make the index even by dividing the power by 2; then extract the square root; so continue until a power is obtained either known or easily proven. This would, of course, be a tedious process.

In Vol. ii., No. 2, of the *Mathematical Visitor*, at page 32, 2^{512} is given, being 4^{4^4}. To prove this result, Dr. Martin, the editor, multiplied Mr. Shanks' 2^{505} by 2^7, the results agreeing. This would verify Mr. Shanks' work to that point.

Since then I have squared that result, giving

2^{1024} = 179,769,313,486,231,590,772,930,519,078,902,473,361,797,697,894,230,657,273,430,081,157,732,675,805,500,963,132,708,477,322,407,536,021,120,113,879,871,393,357,658,789,768,814,416,622,492,847,430,639,474,124,377,767,893,424,865,485,276,302,219,601,246,094,119,453,082,952,085,005,768,838,150,682,342,462,881,473,913,110,540,827,237,163,350,510,684,586,298,239,947,245,938,479,716,304,835,356,329,624,224,137,216.

[The rest in Volume.]

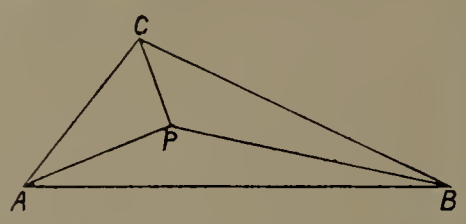
4699. (Professor Crofton, F.R.S.)—A curve rolls on a straight line; determine the nature of the motion of one of its involutes.

Solution by H. W. Curjel, M.A.

Let P be a common point of the curve and its involute where the radius of curvature of the involute is zero. Then, if A be point of contact on the straight line when P is the point of contact of the curve, it is clear that the motion of the involute is the same as if it were made to slide through a short groove fixed at A at right angles to the given straight line. It will not limit the motion if similar grooves are fixed at all the points where the curve touches the straight line, P being the point of contact.

13452. (R. F. Davis, M.A.)—If P be a point within the triangle ABC such that $PA/\sin A = PB/\sin B = PC/\sin C = 2\rho$, determine ρ, and prove that $3\rho^4 = \rho^2(R^2+\delta^2) + R^2\delta^2$ (where O = circum-centre, R = circum-radius, and $OP = \delta$). Upon what well-known line does P lie?

Solution by G. N. Bates, B.A.



Let $AP = a\sigma$,

$\angle BPC = \alpha$, &c.

Then

$$\Sigma \cos^2\alpha - 2\cos\alpha\cos\beta\cos\gamma = 1;$$

$$\therefore\ \Sigma\left\{\frac{(b^2+c^2)\sigma^2-a^2}{2bc\sigma^2}\right\} - \frac{1}{4a^2b^2c^2\sigma^6}$$

$$\left[\left\{(b^2+c^2)\sigma^2-a^2\right\}\left\{(c^2+a^2)\sigma^2-b^2\right\}\left\{(a^2+b^2)\sigma^2-c^2\right\}\right] = 1,$$

which reduces to

$$\sigma^4\left\{\Sigma a^4b^2 - \Sigma a^6 - 3a^2b^2c^2\right\} + \sigma^2\left\{\Sigma a^4b^2 - \Sigma a^6 - a^2b^2c^2\right\} - a^2b^2c^2 = 0.$$

Using the identity

$$\Sigma a^3\cos A \equiv abc\,(1+4\cos A\cos B\cos C),$$

this becomes, on putting $R\sigma = \rho$,

$$\rho^4\left\{8\cos A\cos B\cos C - 1\right\} + \rho^2R^2\left\{8\cos A\cos B\cos C + 2\right\} - R^4 = 0.$$

Also, since O is the centre of mean position for multiples $\sin 2A$, &c.,

$$2\rho^2(1+4\cos A\cos B\cos C) = R^2+d^2;\quad \therefore\ 3\rho^4 = \rho^2(R^2+d^2) + R^2d^2;$$

and, by Question 13424, P lies on line joining circumcentre to orthocentre.

13444. (Professor K. J. Sanjána, M.A.)—Examine the accuracy of the following examples in a recent treatise on trigonometry:—(1) If

$$\cos(\beta-\gamma) + \cos(\gamma-\alpha) + \cos(\alpha-\beta) = -\tfrac{3}{2},$$

show that $\cos n\alpha + \cos n\beta + \cos n\gamma$ is zero unless n is a multiple of 3. (2) From the expression for x^n+1 in factors, deduce that

$$\tan^{-1}\left(\frac{\sin n\theta}{1+\cos n\theta}\right)$$

$$= \tan^{-1}\frac{\sin 2\theta\,[1-2\cos(\pi/n)]}{1+\cos 2\theta[1-2\cos(\pi/n)]} + \tan^{-1}\frac{\sin 2\theta\,[1-2\cos(2\pi/n)]}{1+\cos 2\theta[1-2\cos(2\pi/n)]} + \dots.$$

[A short proof of the first example, which is correct, is required. The second example is incorrect, and when corrected leads to the evident identity $\frac{1}{2}n\theta = n\times\frac{1}{2}\theta$.]

Solution by W. J. Greenstreet, M.A.

(1) $$(\Sigma\cos\alpha)^2 + (\Sigma\sin\alpha)^2 = 3 + 2\Sigma\cos(\alpha-\beta) = 0;$$

$$\therefore\ \Sigma(\cos\alpha) = \Sigma(\sin\alpha) = 0;$$

$$\therefore\ (\cos\beta+\cos\gamma)^2 + (\sin\beta+\sin\gamma)^2 = \cos^2\alpha + \sin^2\alpha;$$

$$\therefore\ 2 + 2\cos(\beta-\gamma) = 1;\qquad \therefore\ \beta-\gamma = \tfrac{2}{3}\pi.$$

Similarly, $$\gamma-\alpha = \tfrac{2}{3}\pi;$$

$$\therefore\ \alpha = \gamma - \tfrac{2}{3}\pi,\quad \beta = \gamma + \tfrac{2}{3}\pi,\quad \gamma = \tfrac{1}{3}\Sigma\alpha;$$

$$\therefore\ \Sigma\cos n\alpha = \cos(n\gamma - \tfrac{2}{3}n\pi) + \cos(n\gamma + \tfrac{2}{3}n\pi) + \cos n\gamma$$

$$= \cos n\gamma\,(1 + 2\cos\tfrac{2}{3}n\pi) = 0, \text{ if } n \text{ is not a multiple of } 3$$

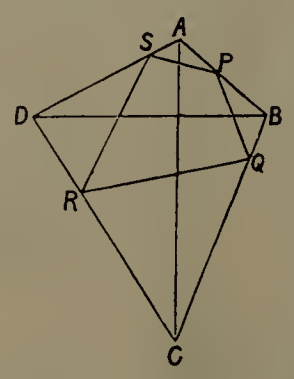
$$= 3\cos n\gamma, \text{ if } n \text{ is a multiple of } 3 = 3\cos\Sigma\tfrac{1}{3}n\alpha.$$

[This question was set in Sidney Schol., 1893.]

[The rest in Volume.]

13376. (Professor Neuberg.)—Soit ABCD un quadrilatère tel que $(AB)^2+(CD)^2 = (BC)^2+(DA)^2$. Si l'on divise chaque côté en deux segments proportionnels aux carrés des côtés adjacents, les quatre points ainsi obtenus sont concycliques.

Solution by H. W. Curjel, M.A., *and* W. E. Jeffares, B.A.



Let AB, BC, CD, DA = a, b, c, d: and let P, Q, R, S be the points in which these sides are divided. Then $b^2-a^2 = c^2-d^2$; therefore the diagonals AC, BD cut at right angles.

Also $AP = \dfrac{ad^2}{b^2+d^2}$, $AS = \dfrac{a^2d}{a^2+c^2} = \dfrac{a^2d}{b^2+d^2}$;

therefore $AP : AS = d : a$;

therefore $\angle APS = ADB$;

similarly $\angle BPQ = BCA$;

and $\angle CRQ = DBC$ and $\angle DRS = DAC$;

therefore angles APS, BPQ, CRQ, DRS are equal to two right angles; therefore angles SPQ, SRQ are equal to two right angles; therefore P, Q, R, S are concyclic.

13449. (H. MacColl, B.A.)—Let p be the chance that two classes taken at random under the same arbitrary restrictions, but independently of each other, are mutually exclusive; and let the three syllogistic classes X, Y, Z, and the *universe of discourse* U, be all four thus randomly formed. Show, by elementary algebra, that the chance of *Darapti* having true premisses and a false conclusion is $3p^2-3p^3+p^4$.

Note.—The premisses of *Darapti* are understood to assert (1) that nothing common to the classes U and Y is absent from X; and (2) that nothing common to U and Y is absent from Z; while the conclusion asserts that something common to U and X exists also in Z.

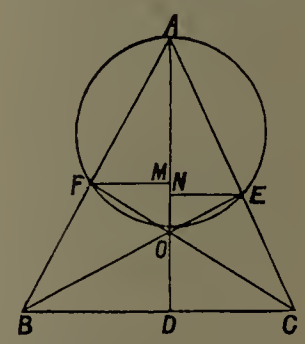
Solution by H. W. Curjel, M.A.

The conditions require that U and Y should be mutually exclusive, and that there should be nothing common to all the three classes X, Z, U. The chance of the former is p. The chance that there should be something common to X, Z, U is $(1-p)^3$. Therefore chance that there should be nothing common $= 3p-3p^2+p^3$; therefore required chance

$$= 3p^2-3p^3+p^4.$$

13447. (D. Biddle.)—Given the perpendicular AD, and the ratios AE : EC, AF : FB formed by the feet of the other perpendiculars, construct the triangle.

Solution by (1) W. S. Cooney, B.A.; (2) L. E. Reay, B.A.; *and others.*



(1) $$\frac{BD}{DC} = \frac{BF}{FA}\times\frac{AE}{EC} = \text{given}.$$

Draw FM and EN parallels to BC.

$\therefore$ M and N are given points.

$$\frac{BD}{NE} = \frac{BD}{DC}\times\frac{DC}{NE} = \text{given}.$$

$\therefore$ O is a given point.

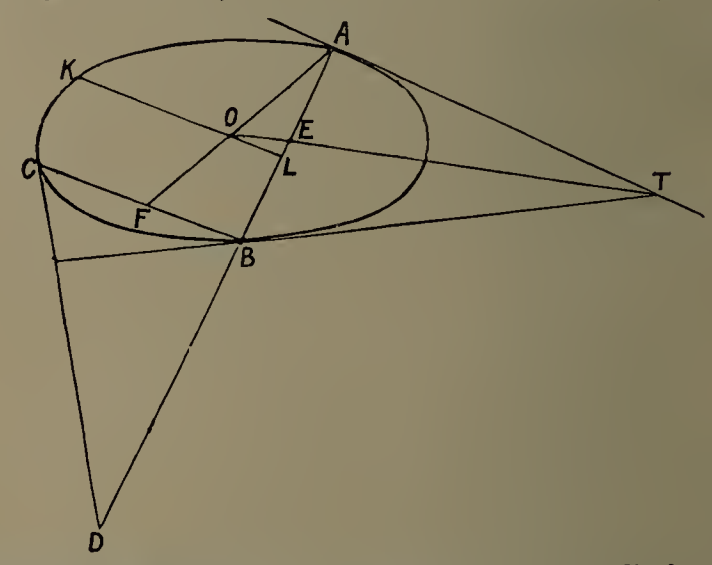
Describe a circle on AO as diameter, and from M and N draw parallels to BC.

$\therefore$ F and E are found. $\therefore$ &c.

[The rest in Volume.]

13434. (Professor Neuberg.)—En un point A d'une conique on mène la corde normale AB; en B on mène la corde BC perpendiculaire à BA, et de C on abaisse une perpendiculaire CD sur la tangente en B. Cette perpendiculaire rencontre AB en un point D. Démontrer que BD est égal au diamètre du circle osculateur en A.

Solution by R. F. Davis, M.A.; Professor A. Droz-Farny; *and others.*



The sides of the triangle BCD being respectively perpendicular to those of the triangle ABT,

$$BD : 2BF = AT : 2AE = OL : 2EL \dots\dots\dots\dots (1).$$

Also

$$BF^2 : OK^2 = OA^2-OF^2 : OA^2 = AL^2-BL^2 : AL^2 = 4EL.AE : AL^2 \dots\dots (2).$$

From (1) and (2), $BD.BF : 2OK^2 = 2OL.AE : AL^2$;

therefore $BD.AL : 2OK^2 = 2OL.AE : AL.BF = 1 : 1$,

and $BD = 2OK^2/AL$ = diameter of curvature at A.

3326. (By J. B. Sanders.)—Find the velocity and periodic time of a body revolving in a circle at a distance of n radii from the earth's centre.

Solution by H. J. Woodall, A.R.C.S.

It is proved in books on Dynamics that (for the law of the inverse square of the distance) $T^2 = Ar^3$, where T = periodic time, r the mean distance, A some constant depending on the units employed.

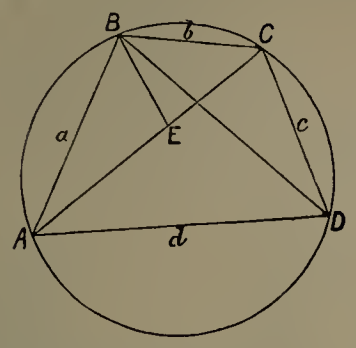
In the case of the moon, T = 27·32 days, $r = 60a$;

$$\therefore\ 27{\cdot}32^2 = A\,(60a)^3.$$

In the given case $T^2 = A\,(na)^3$; eliminating A and a^3 and reducing, we get $T = {\cdot}0588n^{\frac{3}{2}}$ nearly.

13465. (Professor H. Langhorne Orchard, M.A., B.Sc.)—If ABCD is a quadrilateral inscribed in a circle, and AB, BC, CD, DA be denoted by a, b, c, d, respectively, show that $AC.BD = ac+bd$, and explain the two products on the right-hand side of the equation.

Solution by Rev. T. Wiggins, B.A.



Draw BE so that

$$\angle ABE = \angle CBD.$$

Then, $\because$ $\angle BAE = \angle BDC$,

$\triangle$s ABE, DBC are similar;

$$\therefore \quad AB : AE = BD : DC,$$

and $\quad AB : BD = EB : BC$;

$$\therefore \quad AB . DC = DB . AE.$$

Also, $\because$ $\angle EBC = \angle ABD$,

$\triangle$s ABD, EBC are similar,

since $\quad AB : BD = EB : BC$;

$$\therefore \quad AD : DB = EC : BC, \quad \text{or} \quad AD . BC = DB . EC;$$

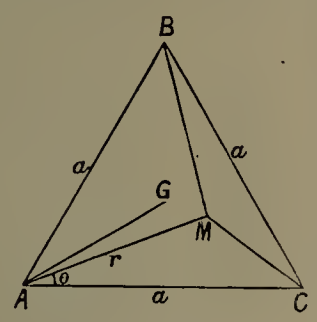
$$\therefore \quad AB . DC + AD . BC = DB . AE + DB . EC = DB . AC;$$

$$\therefore \quad ac + db = AC . DB.$$

13495. (Professor C. Cochez.)—On donne un triangle équilatéral ABC, son centre de gravité en G. Lieu des points M tels que

$$MA . MB . MC = (AG)^3.$$

Solution by Rev. J. Cullen, B.A.



Let a be the length of each of the sides, and $AM = r$. Then

$$BM = \left\{a^2 + r^2 - 2ar \cos\left(\tfrac{1}{3}\pi - \theta\right)\right\}^{\frac{1}{2}},$$

$$CM = \left\{a^2 + r^2 - 2ar \cos\theta\right\}^{\frac{1}{2}},$$

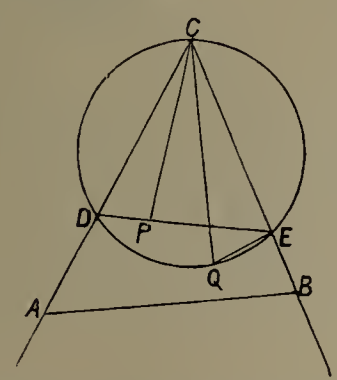
$$AG = a/\sqrt{3};$$

$$\therefore \quad r\left\{(a^2+r^2)^2 - 4ar(a^2+r^2)\cos\tfrac{1}{6}\pi \cos\left(\tfrac{1}{6}\pi - \theta\right) + 4a^2r^2 \cos\left(\tfrac{1}{3}\pi - \theta\right)\cos\theta\right\}^{\frac{1}{2}} = a^3/3\sqrt{3};$$

a curve of the sixth degree.

13460. (I. Arnold.)—Through a given point outside or inside a given triangle to draw a right line bisecting the triangle.

Solution by W. S. Cooney, *and* W. E. Jeffares, B.A.



Let P = given point. Draw CQ, making

$$\angle BCQ = \angle ACP.$$

Make rect. CP . CQ = $\frac{1}{2}$ rect. AC . CB.

On PQ describe a segment containing

$$\angle PEQ = \angle DCQ,$$

EPD = required line. Since

$$\angle PEG = \angle DCQ,$$

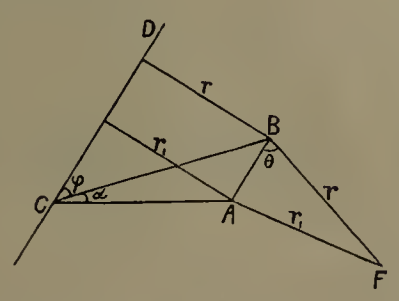
CDQE is cyclic; therefore $\triangle$DCP is similar to $\triangle$QCE.

$$\therefore \quad CP . CQ = CD . CE = \tfrac{1}{2}CA . CB;$$

therefore, &c.

13381. (Professor Droz-Farny.)—On considère toutes les paraboles qui passent par deux points fixes A et B et dont les directrices passent par un troisième point fixe C. Quel est le lieu de leurs foyers? Que devient le lieu si les trois points sont en ligne droite?

Solution by Rev. J. Cullen, B.A.



Let a, b, and c be the sides of the triangle formed by the three given points, CD a directrix, and F the focus. Then from the figure we have

$$r = a \sin\phi, \quad r_1 = b \sin(\phi + \alpha).$$

Eliminating ϕ, we get

$$b\left\{(a^2 - r^2)^{\frac{1}{2}} \sin\alpha + r\cos\alpha\right\} = ar_1.$$

Also $\quad r_1^2 = r^2 + c^2 - 2cr\cos\theta.$

Therefore the locus of F is

$$a^2 = b^2(r^2 + c^2 - 2cr\cos\theta)\left\{a^2\sin^2\alpha + r^2\cos 2\alpha + r(a^2 - r^2)^{\frac{1}{2}}\sin 2\alpha\right\}.$$

When the three points are in a straight line $\alpha = 0$ and $a = c + b$. Hence the locus becomes $\left\{(b+c)^2 - b^2\right\} r^2 + c^2(b+c)^2 = 2(b+c)^2 cr\cos\theta$, the equation of a circle.

QUESTIONS FOR SOLUTION.

13548. (The late Professor Sylvester, Jan. 1897.)—If $[\alpha, p, \beta]$ means that one of the integers 1, 2, 3, ... p, when multiplied by β, gives a product congruous to α to mod p, and ρ is any irrational pth root of unity, prove that

$$\Sigma \frac{\rho^\alpha}{1 - \rho^\beta} = (\alpha, p, \beta)\frac{p-1}{p} - \frac{p^2-1}{2p}.$$

13549. (Professor Crofton, F.R.S.)—Every prime number of the form $4n + 1$ is the sum of two squares.

13550. (Professor Neuberg.)—Soient, sur une sphère, un triangle sphérique ABC et un point D tel, que les grands cercles joignant A, B, C aux pôles des petits cercles circonscrits aux triangles BCD, CAD, ABD concourent en un même point. Démontrer que les côtés a, b, c du triangle ABC et les distances DA = α, DB = β, DC = γ vérifient la relation

$$\begin{vmatrix} 1 & \cos a + \cos\alpha & \cos a \cos\alpha \\ 1 & \cos b + \cos\beta & \cos b \cos\beta \\ 1 & \cos c + \cos\gamma & \cos c \cos\gamma \end{vmatrix} = 0.$$

13551. (The late Professor Wolstenholme, M.A., Sc.D.)—In general, in any tetrahedron,

$$\frac{\sin(B+y) + \sin(C+z)}{b+y+c+z} = \frac{3V}{32\Delta_1\Delta_2\Delta_3\Delta_4} \times \left[\left\{a^2 + (y-c)(b-z)\right\}\left\{x^2 + (b-c)(y-z)\right\} - (by+cz)(b+y-c-z)^2\right],$$

and any equation derived from this by cyclical permutation, or by changing throughout the signs of any dihedral angles and the corresponding (opposite) edges, is also true. Hence prove that the equations $B + y = C + z = 180°$ cannot be true for any finite tetrahedron. V denoting the volume; Δ_1, Δ_2, Δ_3, Δ_4 the areas of the faces; a, b, c the lengths of three conterminous edges; x, y, z the lengths of the respectively opposite edges; A, B, C, X, Y, Z the dihedral angles opposite to the edges a, b, c, x, y, z respectively.

13552. (Professor A. Droz-Farny.)—Soient Δ et Δ' deux cercles de centres O et O′ et se coupant en A et B. Une transversale variable menée par A coupe Δ en α et Δ' en α'. La parallèle menée par α à O′A coupe Δ en β, et la parallèle menée par α' à OA coupe Δ' en β': (1) Les trois points A, β, β' sont en ligne droite; (2) si les droites $\alpha\beta$ et $\alpha'\beta'$ se coupent en P, quel est le lieu de ce point?

13553. (Professor Sanjána, M.A.)—On the sides of a given triangle ABC are described the rectangles ABDE, BCFG, CAHK, the diagonals of each being inclined at any angle 2ϕ; the sides DE, FG, HK meet in P, Q, and R, and the centres of the rectangles are p, q, and r. Prove that the triangles PQR and ABC are always homothetic, the centre of similarity being one of four fixed points (the symmedian point or one of the ex-symmedian points); and that $PQR/ABC = 1 + a\tan^2\phi + b\tan\phi$, where $a = 4\cot^2\theta$, and $b = \pm 4\cot\theta$, θ being one of the angles A, B, C, ω. Again, prove that pqr and ABC are not similar, except in one case only; that the centroid or one of the excentroidal points of pqr is one of four fixed points (the centroid or one of the vertices); that $4pqr/ABC = 1 + a\tan^2\phi + b\tan\phi$, where $a = 1 \pm 2$, and $b = \pm 2\cot\theta$; and that when pqr is similar to ABC its area is $\frac{1}{4}s(1 - 3\tan^2\omega)$.

[Refer to Questions 12508 and 13133.]

13554. (Professor H. Langhorne Orchard, M.A., B.Sc.)—Sum to n terms the series $\quad 5 + 22 + 57 + 116 + 205 + \ldots.$

13555. (Editor.)—Solve the two systems of equations

$$(2 \pm x)(2 \mp x)^2 = (x \pm y)(x \mp y)^2 = (y \pm 2)(y \mp 2)^2.$$

13556. (D. Biddle.)—On the circumference, ACDB, of a semicircle take two fixed points C, D, and draw DE perpendicular to the base AB; in AE take any point P, and in the base produced take Q such that PDQ is a right angle; draw PR, DS respectively perpendicular and parallel to CQ, produce PR to meet DS in S, and join ES, intersecting CQ in T. Find the loci (1) of T, (2) of S, (3) of R, this being the order of increasing difficulty.

13557. (Rev. T. Wood Robinson, R.N.)—Find the chance of throwing all sixes in r throws with n dice, and deduce the number of throws that must be made with five dice that the chance of throwing all sixes may be even.

13558. (R. F. Davis, M.A.)—Resolve $(x^2 + 3)^4 + (4x)^4$ into biquadratic factors.

13559. (R. Knowles, B.A.)—PQ, CD are common chords of a circle centre O and rectangular hyperbola centre C; T, T′ are the poles, with respect to the hyperbola, of PQ and CD; M the mid-point of TT′. Prove that CO and CM are equally inclined to the axis.

13560. (M. Brierley.)—Given the vertical angle and the radius of the in-circle, to construct the triangle, when the line drawn from a given point to meet the base at a given angle divides it into segments having a given ratio.

13561. (P. W. Flood.)—Solve

$$2bx - ax = x^4/a^2 + (2x^2/a)(b - x).$$

13562. (R. Chartres.)—If ABC be a triangle, and D a point in BC, and DA, DB, DC be denoted by x, y, z respectively, then

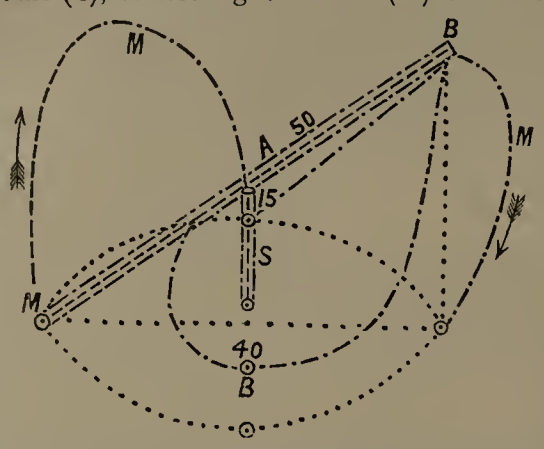
(1) $by + cz > ax$; (2) $b^2y + c^2z > ax^2$;

(3) $by^2 + cz^2$ is a minimum when A is bisected, when

(4) $b^2y + c^2z = abc$.

13563. (H. W. Curjel, M.A.)—AFDB, AGEC are two intersecting straight lines; and FG, DE, BC are perpendicular to AC; and EF, DC to AB. Prove by the First Book of Euclid that DG is parallel to BE.

13564. (F. M. Shields).—A flat beam (A), 50 feet long, is balanced in the centre on an upright stake (S), 15 feet high. A man (M) is on one end of the beam on the ground, and a bear (B) of equal weight, is on the other upper end, 30 feet from the level plain. The man springs or jumps $\frac{1}{4}$ of the horizontal circle, going up 30 feet and down in *double curves*, around each of the four quadrants, while the bear's end of the beam goes down touching the ground and up in *opposite curves*. The man makes 4 jumps in making one complete revolution round the circle; the bear starts to walk the beam at the same time the man starts to jump, and the bear travels $\frac{1}{4}$ of the beam, while the man goes round *one quadrant*; the bear reaches the centre of the beam, and *returns back* to his starting place at the end of one complete revolution of the beam, all done at a uniform speed. How much further does the man travel than the bear?



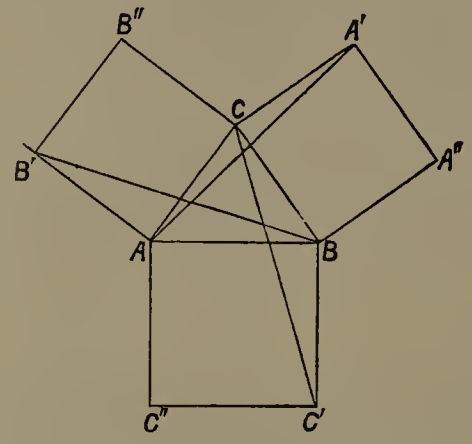
13565. (I. Arnold.)—The ends of a cord, 10 feet long, are fastened to two points, A and B, in the same horizontal line and 6 feet apart. From the cord are suspended two weights, one of 3 lbs., the other 5 lbs. The portion of the cord between the points of suspension is also horizontal, and 3 feet perpendicular distance from AB. It is required to find the lengths of those portions of the cord between A and B and the points of suspension of the weights.

13566. (W. E. Jeffares, B.A.)—If α, β, γ, δ be the roots of the equation $ax^4+4bx^3+6cx^2+4dx+e=0$, find the relation between the coefficients so that $\alpha-\beta$, $\alpha-\gamma$, $\alpha-\delta$ may be in harmonic progression.

13567. (Robert W. D. Christie).—Prove that an infinite number of integral values of a, b, A, B, can be found to satisfy the equation

$$(3a^2+2ab+2b^2)^2 \equiv (3A^2+2AB+2B^2)+2.$$

13568. (W. S. Cooney, B.A.)—Squares are described on sides of any triangle ABC (Extension of Question 13481). If T = area of triangle formed by intersections of AA′, BB′, CC′, T′ = area of triangle formed by the whole lines AA′, BB′, CC′, and Δ = area of ABC, prove geometrically that $TT' = \Delta^2$.



13569. (Rev. J. Cullen, B.A.).—A triangle is formed by two co-initial vectors α, β and the join of their terms. Prove that $\alpha\Omega\beta^{-1}$ is the vector to the negative Brocard-point, where Ω is vector to the positive point. Also express these vectors in terms of α and β.

13570. (Rev. T. Mitcheson, B.A.)—If l, m, n be the perpendiculars from the angular points upon the respective sides a, b, c of a triangle. then $(l^3+m^3+n^3)/(a^{-3}+b^{-3}+c^{-3}) = lmn/a^{-1}b^{-1}c^{-1}$.

13571. (Rev. W. Allen Whitworth, M.A.)—A stick 18 inches long is divided at random into three parts. John is to have the longest piece, Tom the next, and Sam the shortest. Determine their expectations.

13572. (G. Hale Puckle, M.A.).—If $\phi(xy)=0$ and $\alpha x+\beta y+\gamma=0$ represent a conic and a directrix, and (x', y') is the corresponding focus, show that $\rho^2(\alpha x'+\beta y'+\gamma)+\Delta^{\frac{1}{2}}=0$, and $\rho^4\phi(x'y')=\Delta$,
where $2\rho^2 = R-a-b$, $R^2=(a-b)^2+4h^2$.

13573. (L. E. Reay, B.A.)—Suggested by Question 13540.—A point B moves on a fixed conic. A and D are fixed points on the conic; BC passes through D; the angle BAC is constant. Find the locus of C.

13574. (Salutation.)—Expose the fallacy in the following transformation:—

$$x^3+qx+r=0 \ldots\ldots\ldots (1) \qquad x = -\frac{r}{x^2+q} \ldots\ldots\ldots (2)$$

$$-\frac{r^3}{(x^2+q)^3} - \frac{qr}{x^2q} + r = 0 \ldots\ldots (3) \qquad x^6+2qx^4+q^2x^2-r^2=0 \quad (4)$$

$$2qx^4 = 2qx\,.\,x^3 = -2q^2x^2-2qrx \quad (5) \qquad x^6-q^2x^2-2qrx-r^2=0 \quad (6)$$

$$x^3 = \pm(qx+r) \ldots\ldots\ldots (7).$$

NOTICE TO CORRESPONDENTS.

Owing to the Mathematical Editor's illness, it is requested that, till further notice, all Mathematical communications should be sent to

D. Biddle, Charlton Lodge, Kingston-on-Thames.

NOTICE.—Vol. LXVI. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.; to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

Thursday, June 10*th*, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Seven members present.

Mr. W. W. Taylor exhibited numerous models of the regular Convex and Star Solids, viz., *Convex:* Tetrahedron, Cube, Octahedron, Dodecahedron, Icosahedron; *Star:* 3 Dodecahedrons and one Icosahedron; *Complex:* 2 . 5 . 10 Tetrahedrons, 5 Cubes, 5 Octahedrons; and some of the figures whose faces are regular but of two different kinds.

Major MacMahon, Vice-President, having taken the Chair, communicated papers by Mr. H. MacColl, "The Calculus of Equivalent Statements" (Sixth Paper); and by Dr. G. A. Miller, "On the Primitive Substitution Groups of Degree Fifteen."

Mr. Love wrote on the blackboard "A Generalized Form of the Binomial Theorem," by Rev. F. H. Jackson. The Chairman said he himself had obtained the same form some ten years ago, and on inquiry found that it was well known in connexion with the Theory of Elliptic Functions.

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The Session 1897-8 will begin on Thursday, October, 7th. Students are expected to enter their names between 2 and 4 on Wednesday, October 6th. Courses in preparation for all the examinations in Arts and Science held by the University of London, the Teacher's Diploma (London), the Teacher's Certificate (Cambridge). Special Course of Scientific Instruction in Hygiene and Public Health. Lectures in all Branches of Higher Education. Six Laboratories open to Students for Practical Work. Art School open from 10 to 4. Students can reside in the College.

LUCY J. RUSSELL,
Honorary Secretary.

BEDFORD COLLEGE, LONDON (FOR WOMEN),

YORK PLACE, BAKER STREET, W.

DEPARTMENT FOR PROFESSIONAL TRAINING IN TEACHING.

(Recognized by the Cambridge Syndicate.)

Head of the Department—Miss HANNAH ROBERTSON, B.A.

The Third Term of the Session opens on Thursday, October 7th. The Course includes full preparation for the Examinations for the Teaching Diplomas granted by the Universities of London and Cambridge, held annually in December.

Full particulars on application to Miss H. ROBERTSON, at the College. LUCY J. RUSSELL,
Honorary Secretary.

THE MARIA GREY TRAINING COLLEGE

(LATE 5 FITZROY STREET, W.),

SALUSBURY ROAD, BRONDESBURY, LONDON, N.W.

A FULL COURSE of TRAINING in preparation for the TEACHERS' CERTIFICATE in the Theory and Practice of Teaching is offered to Ladies who desire to become Teachers.

Kindergarten Teachers are also prepared for the Higher Certificate of the National Froebel Union.

Junior Students are prepared for the Cambridge Higher Local Examinations.

Scholarships offered in all Divisions.

College year begins September 15th, 1897.

Address—Principal, Miss ALICE WOODS, the Maria Grey Training College, Salusbury Road, Brondesbury, N.W.

THE DATCHELOR TRAINING COLLEGE,

CAMBERWELL GROVE, S.E.

(In connexion with the Datchelor Collegiate School for Girls.)

Governing Body—The Worshipful Company of Clothworkers of the City of London.

Principal—Miss RIGG.

Mistress of Method and Lecturer—Miss CARPENTER.

Assisted by other Teachers and Lecturers.

This College provides a full course of professional training for Women Teachers, together with abundant opportunity for regular class teaching in a school of over 400 pupils. Special provision is made for instruction in Physiology and Hygiene, Elocution, Drawing, and Ling's Swedish Drill.

Students are prepared for the Examination of the Cambridge Teachers' Training Syndicate.

Fees moderate. Arrangements have been made for boarding students.

For full particulars apply to the PRINCIPAL.

THE CAMBRIDGE TRAINING COLLEGE FOR WOMEN TEACHERS.

Principal—Miss E. P. HUGHES, Associate of Newnham College.

The Students attend the Cambridge University Lectures on Teaching, and have ample opportunity for teaching in various schools in Cambridge.

The object of the College is to give a professional training to educated women who intend to teach. In addition to the course of training, it offers the advantages of a college life, and one year's residence in Cambridge.

Students are admitted in January and September.

Full particulars may be obtained by application to the PRINCIPAL.

ST. GEORGE'S TRAINING COLLEGE, for WOMEN TEACHERS in SECONDARY SCHOOLS and GOVERNESSES in FAMILIES. —This College provides a complete course of training for well-educated women who intend to become Teachers. The Course includes attendance at Professor Laurie's Lectures on Education at the University of Edinburgh, and practice in Class-Teaching in several schools. Several Bursaries of £30 are offered annually. The College year begins in October. Apply to the PRINCIPAL, 5 Melville Street, Edinburgh.

UNIVERSITY COLLEGE OF WALES, ABERYSTWYTH.

(One of the Constituent Colleges of the University of Wales.)

TRAINING DEPARTMENT FOR SECONDARY TEACHERS, MEN AND WOMEN.

Recognized by the Cambridge Teachers' Training Syndicate.

Professor of the Theory, Practice, and History of Education—FOSTER WATSON, M.A. Lond.

Assistant Lecturer—MISS ANNA ROWLANDS, B.A. Lond.

Preparation for (*a*) The Degrees in Arts and Science of the University of Wales, the curriculum for which includes the Theory and History of Education as an optional subject in the third year; (*b*) Cambridge Teachers' Certificate, Theory and Practice; (*c*) London University Teachers' Diploma; (*d*) College of Preceptors' Diplomas.

Composition Fee for the Session (including Lectures and Practice) £10.

Men Students reside in registered lodgings in the town. Some of the Men Students are able, with economy, to limit the cost of Board and Residence to £25 per annum.

Women Students reside in the Hall of Residence for Women Students. Terms from 31 to 40 guineas.

For further particulars apply to

T. MORTIMER GREEN,
Registrar.

OWENS COLLEGE VICTORIA UNIVERSITY, MANCHESTER.

PROSPECTUSES for the Session 1897-8 will be forwarded on application:—

I. DEPARTMENT OF ARTS, SCIENCE AND LAW, and DEPARTMENT FOR WOMEN.
II. DEPARTMENT OF MEDICINE.
III. EVENING AND POPULAR COURSES.

Special Prospectuses can also be obtained of:—

IV. DEPARTMENT OF ENGINEERING.
V. DEPARTMENT OF LAW.
VI. DEPARTMENT OF PUBLIC HEALTH.
VII. DENTAL DEPARTMENT.
VIII. PHARMACEUTICAL DEPARTMENT.
IX. FELLOWSHIPS, SCHOLARSHIPS, EXHIBITIONS, and PRIZES.

Apply to Mr. CORNISH, 16 St. Anne's Square, Manchester, or at the College.

SYDNEY CHAFFERS, *Registrar.*

THE FROEBEL EDUCATIONAL INSTITUTE,

TALGARTH ROAD, WEST KENSINGTON, LONDON, W.

Chairman of the Committee—Mr. W. MATHER.
Treasurer—Mr. C. G. MONTEFIORE.
Secretary—Mr. ARTHUR G. SYMONDS, M.A.

TRAINING COLLEGE FOR TEACHERS.

Principal—Madame MICHAELIS, who is assisted by a Staff of competent Trainers and Teachers.

KINDERGARTEN AND SCHOOL.

Headmistress—Miss LAWRENCE.

Further particulars may be obtained on application to the PRINCIPAL.

SUTTON KINDERGARTEN and TRAINING COLLEGE, SUTTON, SURREY.

Principal—Miss TINSLEY.
Assisted by Miss FLORENCE CLOSE.

Special advantages offered to Students who wish to become thorough and efficient teachers of Froebel's System. Only a limited number of Students received, so that each may have full opportunities for Class Teaching.

The Training is conducted by trained and qualified Mistresses. Boarders received by Miss F. CLOSE. For particulars apply to the PRINCIPAL.

HOME AND COLONIAL SCHOOL SOCIETY.

Incorporated for Examination and Certificate purposes with the National Froebel Union.

TRAINING COLLEGE FOR SECONDARY TEACHERS, with School for Girls and Kindergarten.

HIGHBURY HILL HOUSE, LONDON, N.

Students (Resident and Non-Resident) trained for the Examinations of the National Froebel Union, Cambridge University (Higher Local and Teachers'), and for the Teachers' Diploma of the College of Preceptors.

For Prospectuses apply to the SECRETARY, Highbury Hill House, London, N.

KING'S COLLEGE, CAMBRIDGE. —There will be a competition for Two CHORAL SCHOLARSHIPS (one Tenor and Bass) on Wednesday, August 4th, stipend £80 each for three years, with certain allowances. The successful Candidates will be required to enter the College as Members of the University not later than October 1st, 1897. For further information apply to the DEAN.

LONDON UNIVERSITY EXAMINATIONS.

Day and Evening Classes

FOR THE

Matriculation

AND OTHER

Examinations of London University,

Commence as follows, at

University Tutorial College.

Matriculation (Jan. & June) ... Th., Sept. 9.
Inter. Arts & B.A. ... ... Mon., Oct. 4.
Prelim. Sci. (M.B.) ... ... Mon., Sept. 20.
Inter. Sc. & B.Sc. ... ... Mon., Oct. 4.

During the last Session **289** Students of University Tutorial College passed London University Examinations.

Prospectus on application to

The Vice-Principal,
University Tutorial College,
Red Lion Square,
London, W.C.

WESTFIELD COLLEGE,

FINCHLEY ROAD, LONDON, N.W.

THREE ENTRANCE SCHOLARSHIPS, of from £50 to £60 a year for two years, will be offered for competition among Women Students at an Examination to be held in September next. Candidates must have passed the Matriculation Examination, and successful competitors will be required to read for the B.A. or B.Sc. Degree of London University. Further particulars may be obtained from the Secretary, Miss S. M. SMEE, 2 The Avenue, Bedford Park, Chiswick, W.

EPSOM COLLEGE, SURREY

Headmaster:
Rev. T. N. HART SMITH, M.A., late Assistant-Master at Marlborough College.

Sixteen Assistant-Masters. Classical and Modern Sides. First-Grade Public School, open to all with Special Terms for the Medical Profession.

Special Preparation for the Universities, for London Matriculation and Science Exams., and for the Army.

House System. Boarders received by the Headmaster. Chapel, Library, Gymnasium, Swimming Bath. Carpenter's Shops, Fives-Courts, and excellent Playing-fields. Three Science Laboratories. Separate Lower School just opened for 100 Boys.

For Prospectus apply to the BURSAR.

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MISS ANNIE RUTTER, Dramatic

Reader, Teacher of Elocution and Voice Culture.

"Wonderfully successful with her pupils."—*Daily News.*

"I have no hesitation in saying you will be pleased with her services."—FANNY STIRLING, London.

Colleges and Schools attended.

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SOCIÉTÉ NATIONALE

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PROFESSEURS DE FRANÇAIS

Can recommend to Schools and Families fully qualified and competent *French Teachers* and *French Governesses.* Apply to M. G. LEPRÉVOST, Secretary, 20 Bedford Street, Strand, W.C.

CARLYON COLLEGE.

KERIN & LYNAM,
55 AND 56 CHANCERY LANE.

LONDON UNIVERSITY CLASSES.

MATRICULATION CLASSES, INTER. ARTS and SC., PREL. SCI., B.A., and B.Sc. CLASSES, Afternoon and Evening. New Term September and October.

Preliminary Classes in Latin, Greek, French, Mathematics, Chemistry, and Mechanics.

Classes and Tuition for **Legal** and **Medical Preliminaries, University** and **Hospital Scholarships, Civil Service Examinations, A.C.P., Higher Local, Oxford and Cambridge First M.B.; Royal University, Ireland, L.L.A.**

VACATION CLASSES and TUITION.
CLASSES FOR LADIES.
PRACTICAL CLASSES in PHYSICS, CHEMISTRY, and BIOLOGY.
B.A. REVISION CLASSES, September 6.
Papers Corrected for Schools.

College of Preceptors Classes.

The Principals may be seen any day between 11.15 and 1, and 2.30 and 5 p.m. (except Saturday), or by appointment at any other time.

New Laboratories fitted with electric light and supplied with all requisites for practical work. Laboratory Practice can be had.

For Prospectus and list of lecturers apply to R. C. B. KERIN, B.A. Lond., First of First Class Classical Honours, Editor of "Pro Plancio" and "Phædo."

SUCCESSES.

B.A. LOND., 1891, 1892, 1893, 8; 1894, 5, 2 in Honours; 1895, 7, 1 in Honours.
MATRIC. LOND., 1892—1897, 46.
LOND. INTER. ARTS AND SCIENCE and PREL. SCI., 1892-1897, 51, 4 in Honours—1 with Double Honours, First and Third Class.
SCIENCE SCHOLARSHIPS, GUY'S, 1892; WESTMINSTER, 1894 and 1896.
ROYAL UNIVERSITY, 26.
OXFORD CLASSICAL SCHOLARSHIP, 1; INDIAN CIVIL, 1; OXFORD RESPONSIONS, 4; MEDICAL PRELIMINARY, 54; DORECK SCHOLARSHIP, 1895 and 1896; CAMBRIDGE PREVIOUS, 6; and many successes at other Examinations.
JUNE MATRIC. '96, HONOURS, 1. B.A. and B.Sc., 1896, 7.

ABERDARE HALL, CARDIFF,

Residence for Women Students of the University College of South Wales and Monmouthshire.

Principal—Miss ETHEL HURLBATT.

Fees 30 guineas and 40 guineas per annum. College tuition fees £10 per annum. Scholarships of £30, £25, £15 and Exhibitions of £10 will be obtainable on result of Scholarship Examination to be held September 13th. A Medical School and Departments for Secondary and Elementary Training are attached to the College. Apply to the PRINCIPAL.

THE TEACHERS' GUILD OF GREAT BRITAIN AND IRELAND.

74 GOWER STREET, W.C.

The **Registry Department** for Men Teachers undertakes **Scholastic Agency work** of all kinds, at lowest charges to cover necessary expenses. Head and Assistant Masterships, Private and Visiting Tutorships, Transfers and Partnerships, &c.

Registrar—Mr. W. H. FRICKER, M A. (Oxon.).

Hours for Interviews—3 to 5 daily, except Thursdays.

OXFORD LOCAL EXAMINATIONS.

LONDON COMMITTEE (BOYS).

The Regulations for the Senior, Junior, and Preliminary Examinations for 1898 can be obtained from the Secretary,

E. LAYMAN, Esq.,
1 Garden Court, Temple, E.C.

MRS. WILLIAM ARCHER

(Assisted by Miss JÖRGENSEN),

receives Pupils for

NERVE TRAINING.

9 Fitzroy Square, W. Hours 10 to 6.

Lectures given and Schools attended in Town or Country.

UNIVERSITY COLLEGE

OF

SOUTH WALES AND MONMOUTHSHIRE.

(A Constituent College of the University of Wales.)

Principal:
J. VIRIAMU JONES, M.A. Oxon., B.Sc. Lond., F.R.S., Fellow of University College, London.

The College comprises the following Departments:—

1. The Faculty of Arts.
2. The Faculty of Science.
3. The Department of Applied Science and Technology. (The Engineering Laboratory is fitted with all the latest appliances, including a 100-ton Testing Machine, which has been purchased at a cost of £2,500.)
4. The Medical School.
5. The Department for the Training of Women Teachers in Secondary Schools.
6. The Department for the Training of Teachers in Elementary Schools (Day Training College).
7. The South Wales and Monmouthshire Training School of Cookery and Domestic Arts (including Dressmaking, Laundry, Ambulance Work, &c.).
8. The Department of Evening Lectures in Art.
9. The Department of Extension Lectures in Engineering and Mining in the Counties of Glamorgan and Monmouth.
10. The Technical School of the County Borough of Cardiff, including—
    (*a*) The Department of Applied Science and Technology.
    (*b*) The School of Art.
    (*c*) The Commercial Department.
    (*d*) The Women's Technical Department.

The next Session opens on October 4th, 1897.

A Matriculation Fee of £1. 1s., in addition to the Lecture Fees, is payable by every new Student at entrance.

In the Faculties of Arts and Science, students, by making a payment of £10 at the commencement of each Session, may compound for all lecture fees for the whole Session.

Laboratory Fees are not included in the above Composition Fee.

Students preparing for the Science Examinations of the University of London or the Medical Courses at the Universities of Edinburgh, Glasgow, and Aberdeen, may, by making a payment of £13. 13s. at the commencement of each Session, compound for both lecture and Laboratory Fees during the Session.

For students from the Associated Counties of Cardiff, Glamorgan, and Monmouth, the Fee of £13. 13s. charged as Composition Fee for Lectures and Laboratory Instruction in the Faculty of Science, will also cover instruction in the Department of Applied Science and Technology maintained by those Counties.

Under the provisions of the Charter of Incorporation of the University of Wales, the University College of South Wales and Monmouthshire is a Constituent College of the University, and its Courses in Arts and Science are, therefore, primarily intended to be qualifying Courses for the Degrees of the University in those faculties.

There is a Hall of Residence for Women Students, under the supervision of Miss ETHEL HURLBATT (Principal). For further particulars in regard to the Hall, application should be made to the Principal, Aberdare Hall, Corbett Road, Cardiff.

ENTRANCE SCHOLARSHIP AND EXHIBITION EXAMINATION, SEPTEMBER, 1897.

One Scholarship of £35; three of £25; two of £20; two of £15; five Craddock Wells Exhibitions; twelve Exhibitions to cover the cost of tuition, and a number of Free Studentships in connection with the Counties of Glamorgan, Monmouth, and Cardiff, will be offered for competition at the Entrance Examination in September, 1897.

For information in respect of the Glamorgan Free Studentships, apply to Mr. WALTER HOGG, Pontypridd; for those connected with the County of Monmouth to Mr. EVAN SNELL, M.A., B.Sc., County Council Offices, Newport, Mon.; and for all further information and prospectuses for College Scholarships and Exhibitions, as well as Cardiff Free Studentships, apply to

J. AUSTIN JENKINS, B.A.
Secretary and Registrar.

University College, Cardiff.
July 15th, 1897.

ST. THOMAS'S HOSPITAL
MEDICAL SCHOOL,

ALBERT EMBANKMENT, LONDON, S.E.

The WINTER SESSION of 1897-8 will open on Saturday, October 2nd, when the Prizes will be distributed at 3 p.m., in the Governor's Hall.

Three Entrance Scholarships will be offered for competition in September, viz.:—One of £150, and one of £60, in Chemistry and Physics, with either Physiology, Botany, or Zoology, for first year's students; one of £50 in Anatomy, Physiology, and Chemistry, for third year's students from the Universities.

Scholarships and money prizes of the value of £300 are awarded at the Sessional Examinations, as well as several medals.

Special Classes are held throughout the year for the Preliminary Scientific and Intermediate M.B. Examinations of the University of London.

All hospital appointments are open to Students without charge.

Club Rooms and an Athletic Ground are provided for Students.

The School Buildings and the Hospital can be seen on application to the Medical Secretary.

The fees may be paid in one sum or by instalments. Entries may be made separately to lecture or to hospital practice, and special arrangements are made for Students entering from the Universities and for qualified Practitioners.

A register of approved lodgings is kept by the Medical Secretary, who also has a list of local medical practitioners, clergymen, and others who receive Students into their houses.

For Prospectus and all particulars apply to Mr. RENDLE, the Medical Secretary.

H. P. HAWKINS, M.A., M.D. Oxon., *Dean.*

CHARING CROSS HOSPITAL
MEDICAL SCHOOL.

The WINTER SESSION, 1897-98, will commence Monday, October 4th, at 4 p.m., when an Introductory Address will be delivered by Dr. WILLIAM CARTER, Professor of Materia Medica in University College, Liverpool.

The Livingstone Scholarship (100 guineas), the Huxley Scholarship (55 guineas), and six other Entrance Scholarships (total value £550) are awarded annually.

Two Scholarships of the value of 60 guineas each are reserved for Students of Oxford, Cambridge, or London University.

FEES.—For the five years' curriculum of study required by the various Examining Bodies and for hospital practice, 110 guineas in one sum, or 121 guineas in five instalments.

The composition fee for sons of registered medical practitioners is 100 guineas, and the fee by instalments 110 guineas in five payments.

The composition fee for Dental Students is 54 guineas, or 60 guineas payable in two instalments of 30 guineas each.

A proportionate reduction of the above Fees is made to Students who have completed part of the curriculum elsewhere.

THE SCHOOL PROSPECTUS, containing full information concerning the classes, prizes, and all other arrangements connected with the Medical School, will be sent on application to the Dean, Chandos Street, Strand, W.C.

H. MONTAGUE MURRAY, *Dean.*

THE DENTAL HOSPITAL OF
LONDON MEDICAL SCHOOL,

LEICESTER SQUARE.

The WINTER SESSION, 1897-98, will commence on October 1st.

Dental Anatomy and Physiology (Human and Comparative.) — Charles S. Tomes, F.R.S., M.A. Oxon., M.R.C.S., L.D.S.Eng., on Tuesdays and Thursdays at 5 p.m. (Summer.)

Dental Surgery and Pathology.—Storer Bennett, F.R.C.S., L.R.C.P., L.D.S., on Wednesdays and Fridays at 8 a.m. (Summer.)

Mechanical Dentistry.—E. Lloyd Williams, L.R.C.P., L.S.A., M.R.C.S., L.D.S.Eng., on Wednesdays, at 5.30 p.m. (Winter.)

Metallurgy in its application to Dental Purposes.—Dr. Forster Morley, M.A., F.I.C., F.C.S., on Thursdays at 5 p.m. (Winter.)

The Hospital is open both morning and afternoon.

During the Sessions the Surgeons of the day will give demonstrations at stated hours.

The Medical Tutor holds classes before each Examination for the L.D.S.

The House Surgeons attend daily while the Hospital is open.

The Saunders Scholarship of £20 per annum and prizes are open for competition.

Fee for two years' Hospital Practice required by the curriculum, including Lectures, £50 in one payment, or 50 guineas in two yearly instalments. The curriculum requires two years to be passed at a General Hospital. The fee for this is about £55. Both Hospitals can be attended simultaneously.

The Calendar may be obtained on application to the DEAN, who attends at the Hospital on Wednesday mornings from 10.30 till 12 throughout the year.

MORTON SMALE, *Dean.*

GUY'S HOSPITAL MEDICAL

SCHOOL. — The WINTER SESSION will begin on Monday, October 4th, 1897. Five Open ENTRANCE SCHOLARSHIPS of the combined value of £410 are offered for Competition in September next, and numerous Prizes, Medals, and Scholarships are awarded annually. The COLLEGE accommodates 60 residents, and contains Reading Rooms, Dining Hall, and Gymnasium for the general use of the Students. During last year more than 6,300 patients have been treated in the Wards of the Hospital. The Preliminary Scientific Class for Students who Matriculated at London University in July will begin on October 4th. The Club's Union Athletic Ground at Honor Oak Park is easily accessible from the Hospital. A handbook of information for students about to enter the profession will be forwarded on application. For further particulars, or prospectus of the School, apply personally or by letter to the DEAN, Guy's Hospital, London Bridge, S.E.

THE MIDDLESEX HOSPITAL
MEDICAL SCHOOL.

The WINTER SESSION, 1896-97, will commence on Monday, October 4th, when an Introductory Address will be delivered.

TWO ENTRANCE SCHOLARSHIPS (value £100 and £60) will be open for competition on September 23rd and 24th.

ONE ENTRANCE SCHOLARSHIP (value £60). open to Students of the University of Cambridge who have passed the Second M.B. Examination, and of the University of Oxford who have passed the First M.B. Examination, will be competed for on October 5th.

Besides Scholarships and Prizes, there are annually EIGHTEEN RESIDENT Hospital Appointments open to Students.

The Composition Fee for general Students for the whole Medical Curriculum is 120 guineas. Special provision is made for Dental Students and for Candidates for the Preliminary Scientific (M.B.) Examination.

Special terms are made in favour of University Students who have already commenced their medical studies, and of University of London Students who have passed the Preliminary Scientific Examination.

The new school buildings now in progress will provide completely equipped laboratories for Physiology, Pathology, and Bacteriology, and extended facilities for the teaching of Anatomy, Chemistry, Biology, Physics, &c.

The Residential College adjoins the Hospital, and provides accommodation for thirty Students.

Prospectuses and all particulars may be obtained from the Resident Medical Officer at the Hospital, or from

W. PASTEUR, M.D., *Dean.*

THE LONDON HOSPITAL
MEDICAL COLLEGE.

The WINTER SESSION will commence on Friday, October 1st.

The Hospital is the largest general hospital in the kingdom, and contains nearly 800 beds. Number of in-patients last year, 11,337; out-patients, 158,002; accidents, 14,625.

Surgical operations daily. Major operations in 1896, 2,196.

APPOINTMENTS.—Sixty qualified resident appointments are made annually. Dressers clinical, post-mortem clerks, and maternity assistants are appointed every three months. All appointments are free. Holders of resident appointments are also provided free board.

SCHOLARSHIPS AND PRIZES.—Entrance Scholarships, value £120, £60, £60, £35, £30, and £20, will be offered for competition at the end of September. Numerous Scholarships and Prizes are given annually.

FEES.—120 guineas in one payment, or 130 guineas by instalments. A reduction of 15 guineas is allowed to the sons of members of the profession.

Luncheons or dinners at moderate charges can be obtained in the Students' Club. The Students' Clubs Union — embracing all the Scientific, Social, and Athletic Clubs — is available to all Students. The Clubs Union Ground is at Lower Edmonton.

The Metropolitan, Metropolitan District, East London, and South-Eastern Railway Stations are close to the Hospital and College.

For further information apply personally, or by letter, to MUNRO SCOTT, *Warden.*

Mile End, E.

ST. BARTHOLOMEW'S HOSPITAL
AND COLLEGE.

The WINTER SESSION will begin on Friday, October 1st, 1897.

Students can reside in the College within the Hospital walls, subject to the collegiate regulations.

The Hospital contains a service of 750 beds. Scholarships and Prizes of the aggregate value of nearly £900 are awarded annually.

The Medical School contains large Lecture Rooms and well-appointed Laboratories for Practical Teaching, as well as Dissecting Rooms, Museum, Library, &c.

A large Recreation Ground has recently been purchased, and is open to members of the Students' Clubs.

For further particulars apply, personally or by letter, to the WARDEN of the College, St. Bartholomew's Hospital, E.C.

A Handbook forwarded on application.

ST. MARY'S HOSPITAL MEDICAL SCHOOL,
PADDINGTON, W.

THE WINTER SESSION begins on October 1st with an Introductory Address, at 4 p.m., by Dr. Gow.

The ANNUAL DINNER will be held in the Evening, at the King's Hall, Holborn Restaurant, Mr. A. J. PEPPER, F.R.C.S., in the Chair.

ENTRANCE SCHOLARSHIPS IN NATURAL SCIENCE.

One of £144, two of £78. 15s., one of £52. 10s., two of £57. 15s. (these two open to students from Oxford and Cambridge) will be awarded by Examination on September 22nd and 23rd.

There are Sixteen Resident Appointments in the Hospital open to students without expense. The School provides complete preparation for the higher Examinations and Degrees of the Universities. Special attention is directed to the fact that the authorities of the Medical School have for the first time thrown open all the Special Classes for the Higher Examinations free to Students.

The Residential College is at present at 33 and 35 Westbourne Terrace, W. Terms may be had on application to the Warden, Mr. H. S. COLLIER.

CLARENCE MEMORIAL WING.

The Foundation Stone of this important addition to the Hospital was laid by H.R.H. THE PRINCE OF WALES, and the first portion, the new Out-Patients' Department, will be finished in September next. This New Wing will provide a new Out-Patients' Department, Wards for Lying-in Women, and a Residential College for Medical Officers and Students, who will then be close to their work, and directly under the influence of the Medical School.

ENLARGEMENT OF THE SCHOOL.

A fresh Laboratory, fitted with electric light and all modern improvements, for the study of Biology, Pathology, and Bacteriology, has been added this year. The new Out-Patients' Department is to be ready by the 15th September next. It will occupy the entire ground floor of the Clarence Wing. The whole of the Out-Patients' buildings have been apportioned for the purposes of new laboratories, class-rooms, and an improved museum.

HOSPITAL STAFF.

Consulting Physicians—Sir Edward Sieveking, M.D.; Sir William Broadbent, Bart., M.D.; Dr. Braxton Hicks, F.R.S. (Accoucheur).

Consulting Surgeons—Mr. H. Spencer Smith, Mr. H. Howard Hayward (Dental).

Physicians—Dr. Cheadle, Dr. Lees, Dr. Sidney Phillips; Out-Patients—Dr. R. Maguire, Dr. A. P. Luff, Dr. H. A. Caley.

Physicians Accoucheur—Dr. Montagu Handfield Jones, Dr. W. J. Gow (Out-Patients).

Surgeons—Mr. Edmund Owen, Mr. Herbert W. Page, Mr. A. J. Pepper; Out-Patients—Mr. A. Q. Silcock, Mr. J. Ernest Lane, Mr. H. S. Collier.

Ophthalmic Surgeons—Mr. G. A. Critchett, Mr. H. Juler.

Aural Surgeons—Mr. G. P. Field, Dr. William Hill (Out-Patients).

Skin Department—Mr. Malcolm Morris.

Throat Department—Dr. Scanes Spicer.

Dental Surgeon—Mr. Morton Smale.

OTHER LECTURERS, &c.

Physiology—Dr. Waller, F.R.S.
Mr. W. L. Symes (Assistant).
Chemistry—Dr. A. P. Laurie, M.A.
Mental Diseases—Dr. T. B. Hyslop.
Tropical Diseases—Dr. John Anderson, C.I.E.
Electro-Therapeutics—Dr. Cagney.
Biology—Mr. W. G. Ridewood.
Anæsthetics—Mr. Henry Davis.
Casualty Physician—Dr. John Broadbent.
Medical Registrar—Dr. Poynton.
Surgical Registrar—Mr. W. V. Low.
Bacteriologist—Mr. H. G. Plimmer.

For Prospectus apply to Mr. F. H. MADDEN, School Secretary.

G. P. FIELD, *Dean.*
A. P LUFF, M.D., *Sub-Dean.*

UNIVERSITY COLLEGE, NOTTINGHAM.

SESSION 1897-8.

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The Educational Times.

The London University Bill.

On the 20th of July the Duke of Devonshire introduced, in the House of Lords, "A Bill intituled an Act to make further Provision with respect to the University of London." Whatever else might be concealed behind that somewhat vague title, two things were pretty clearly implied in it: one was a recognition of the existence of the present University, the other a suggestion that its existence and its claims should be a fundamental consideration in framing measures for an extended University. These implications are justified by the contents of the Bill as now printed. It differs in some respects from the Scheme of the Cowper Commission, which, if it did not entirely fail to acknowledge the existing University, at any rate seemed to couple its slender acknowledgment with destructive intentions. It was urged against the original Cowper Scheme that it would have quietly suppressed the existing Senate, that it would have rendered Convocation impotent, and that it omitted to provide, in the constitution of the new University, any satisfactory machinery for carrying on the work of the old one. It seemed, therefore, at the time, that the Scheme could neither be accepted by the present University nor forced upon it from without, and that the choice lay between no scheme at all and a scheme for the creation of a separate teaching University. But happier counsels have prevailed. The professorial party has been more patient than could have been expected. After the failure of last year's Bill for the appointment of a Statutory Commission, a confidential whisper was heard in certain quarters to the effect that the extreme advocates on both sides were prepared to discuss the terms of a compromise. The present Bill presumably embodies the result of their discussions, and it should, therefore, pass both Houses unopposed.

The Bill appoints a new Commission. The Commissioners are Lord Davey (Chairman), the Bishop of London, Lord Lister, Sir William Roberts, Sir Owen Roberts, Dr. Jebb, and Mr. Busk. By Clause 3 of the Bill these seven are appointed to "make statutes and regulations in general accordance with the Scheme" of the Cowper Commission, but "subject to the modifications specified or indicated in Part I. of the Schedule to this Act." A reference to the Schedule shows that the Bill itself intends to deal with a number of important points, and thus to place them beyond the range of discussion by the Commission. It reconstitutes the Senate, assigning to it fifty-six members (including the Chancellor), as against sixty-six prescribed by the Scheme. The representation of Convocation on the Senate is largely increased: instead of ten members out of sixty-six, it is now to elect eighteen (including its Chairman and the Chancellor) out of fifty-six; while the Faculties, composed, as before, of professors and teachers, are to elect sixteen. The Senate is to be the real directing and controlling authority, and the extensive powers conferred by the Scheme upon the Faculties and the Academic Council are considerably limited. Under the Scheme the Faculties were to elect not only the whole of the Council except its Chairman (the Vice-Chancellor), but also nominally eighteen (really twenty-two) representatives upon the Senate. Now the Faculties are to elect sixteen members directly to the Senate only, and these sixteen members, together with the three great officers (Chancellor, Vice-Chancellor, Chairman of Convocation) and one independent member selected by the Senate, are to form the standing Academic Council.

As far back as March, 1895, a correspondent urged in our columns the necessity of recognizing the external student in the *constitution* of a reformed University, and proposed that "there should be an independent standing Board for the examination of external students, to be placed, as part of the University, on a level with the Academic Council." Under the title of a "Council for External Students" the "missing link" is here supplied. This Council is to consist of the eighteen Senators elected by Convocation, together with the Vice-Chancellor, and nine independent members of their own body appointed by the Senate. And thus, as the interests of internal students are committed to the care of the Academic Council, those of external students will be practically in charge of the representatives of Convocation. It may further be remarked that, for the two classes of students, two different series of examinations are to be held; and so the constitution sketched by the Bill approximates to that of a twin University under a common government. It remains to be seen how a duplex method of granting identical degrees will work out in practice.

It is satisfactory to know that the leaders of the hitherto opposed parties, together with the Chairman of Convocation, have issued manifestoes recommending to Convocation the acceptance of the compromise now arrived at. It seems, indeed, to us, pretty certain that, if it be not accepted, the time for

compromise will have passed for ever; while, on the other hand, it is scarcely possible to imagine an arrangement better adapted than the one here sketched to bring the two parties into union, and, at the same time, to satisfy so many of the demands of each.

The Child.

The child is always with us, but it is only of comparatively recent years that he has been studied from his own point of view. Since the days of classical Athens, when education was the privilege of adults with leisure, the age at which the educator has wished to begin his work has gone steadily down and down, until the first years of infancy have come to be looked upon as perhaps the most important. The last fifty years have seen a marvellous growth in the number and excellence of preparatory schools. During the last twenty years kindergarten has become a household word. In the present decade the thoughts of teachers are being directed to the nursery.

There are two antagonistic views, both of which now prevail, though the second seems to be outweighing the first. The supporters of the first view say the child is to be taught what will be useful to him as a man. Education means equipment for the struggle of existence. This idea lies behind the cry for technical instruction. Let the boy learn that which will enable him to outstrip his competitors in the struggle for commercial supremacy. If he is to be a clerk, let him learn shorthand and French; a mechanic, let him learn drawing and physics. There is a danger at present lest this view should be carried to a fatal extreme by legislators who do not understand the matter. How easy it is to fall into this error two instances will show. Lately Mr. Jesse Collings seriously advised that, in view of the many accidents from oil-lamps, children in elementary schools should be taught how to manipulate these necessary articles of furniture! And only the other day a certain coroner suggested that all girls should be taught how to feed babies. A grand opening is here given for any enterprising firm of educational contractors to arrange for a constant supply of infants in arms for object lessons. This view, if carried to extreme, is ridiculous and even dangerous, but its effect will always be felt. Men want their sons to become like themselves, and look upon childhood as a vexatious period of delay, the nuisance of which can be minimized by storing up useful information, to be applied afterwards.

The second view, and the one that seems to be steadily prevailing, is this: The child is born with certain capabilities and certain needs. These capabilities will develop or die; these needs will be satisfied in one way or another—to the child's benefit or hurt. The early years of life are those in which impressions are strongest. Later education is but a veneer. The real educator will, therefore, study the needs of the child, and endeavour to give its growing faculties just the food needed. The child is to be treated as a child. His childish point of view is to be taken and his childish needs to be satisfied. He is not to be forced into premature manhood. The nursery toys, the kindergarten "games," the school text-books, must be adapted to his point of view, and not to ours.

The young Greek was entrusted to any slave who could teach him to read and write. His education was thought little of until he was of an age to discuss philosophy or mathematics. In mediæval times, and up to a hundred or fifty years ago, the prevailing tendency was to make boys like those who happened to be teaching them. Dr. Arnold wanted to turn out Christian gentlemen from Rugby. Luther would teach children in order that they might read the Bible. Slowly at first, but now more rapidly, the gospel that Pestalozzi preached is spreading. Rousseau and Herbart are also on this side.

Study the child, says the teacher, and adapt your teaching to its needs. Make the child a man as quickly as possible, says the parent, in order that he may take his place in the world. There must always be a certain antagonism between the two views, but, as Mr. Ruskin says, in a healthy State the former view will prevail. It is the part of teachers to make up their minds on this point, that they may know what they are doing and why they are doing it; that they may give an answer to the parent who puts forward a too exclusively utilitarian view, and may convince him that they know their business better than he.

NOTES.

Our first and second Ministers of Education, the Duke of Devonshire and Sir John Gorst, have had sundry opportunities in the course of the past few weeks of meditating on the variability of human conditions, and on the vanity of human wishes. Sir John has been constrained to resign his seat on a Departmental Committee, because he had more or less unwittingly run his head against the stone wall of Departmental etiquette. We do not profess to understand the precise nature of Sir John's temerity, but the power of the civil servant in his own office, as compared with the mere political, is a household word with all of us. The struggles of a hapless Minister who has involved himself in the coils of the great red-tapeworm can be infinitely pathetic.

The troubles of the Duke of Devonshire are perhaps a still more pathetic sight, for he has been injured in the house of his friends. The Duke has been virtually overruled by the Archbishop of Canonbury, who claims for the Church of England the practical control of all the voluntary schools, by distributing the denominational grant—about £620,000 a year—in diocesan areas. He has been more unmistakably overruled by the Marquis of Salisbury, who, on July 16, combined with the Bishops and the Cabinet Ministers in the House of Lords (except Lord James of Hereford) to throw out the Charity Commissioners' scheme for the re-appropriation of a Welsh charity. In the matter of Secondary Education, the Lord President has found it impracticable to introduce a Bill for consideration during the recess, though the idea was his own spontaneous suggestion. But, at any rate, the Duke has been able to inspire his colleagues with sufficient energy to bring in a London University Bill. We should have supposed that on all these points the judgment of an Education Minister would be conclusive.

It has taken a long time to arrive at a compromise on the London University question, and the consequence is that the new Bill has scarcely time to pass, even if all the serious objections on both sides have been removed. We do not like the double examination scheme, and do not believe it will stand the test of experiment. But we are quite willing to cast in our lot with the compromisers, and sincerely hope that the measure will become law. It would do something to redeem a session and a

Parliament which are, so far, singularly barren of educational achievement. We say this with a clear recollection of what has been done for the poorer primary schools; for every one knows that the two Primary Bills were a matter of money rather than of education. What, meanwhile, is the significance of Mr. Moulton's Committee, and for how much does it count? We shall have to go to press before the true inwardness of the situation has declared itself.

By the sudden death of Mr. Mundella education has lost an untiring champion, and one who for many years past had rendered yeoman's service to the cause of elementary and technical instruction. He was Vice-President of the Committee of Council in Mr. Gladstone's Administration of 1880. The length of his term of office, combined with his great aptitude and application, enabled him to make a distinct mark as a popular Education Minister. A humble and not inappropriate tribute to his popularity was afforded by a child in one of the elementary schools, who, under stress of examination, described a certain part of his internal structure as "Mundella oblongata." Our readers will remember that Mr. Mundella was one of the ex-Vice-Presidents who have presided at the distributions of certificates and diplomas of the College of Preceptors. It was he who established the Labour Department of the Board of Trade; and we believe that he was largely instrumental in setting up the Inquiry Department of the Education Office. He was President of the British and Foreign School Society, the National Education Association, and the Association of Technical Institutes; and he has served on sundry Commissions and Conferences on education and labour. He was practically a self-made and self-educated man, who in his early youth had to construct his own ladders before he climbed them; and withal he was a man of culture and of the loftiest aspirations.

Our Oxford Correspondent seems to think that the illiberal demonstration of Cambridge graduates against the equitable recognition of successful women students is producing in the sister University a tendency towards favourable reaction. That would be only natural; and our Correspondent's Letter adduces one or two facts which bear out the suggestion. Meanwhile it has been made quite manifest to any one who was capable of doubting it that intellectual women cannot take a serious view of the suggested Women's University. The Headmistresses' Association have protested against the separation of the higher education of women from the chief centres of English education. Such a separation, they urge, would be injurious to the interests of both teachers and students, who value "the traditions and practical experience of an ancient University, and the service of the most complete and highly-organized faculty of teachers in the country." The proposed scheme "would replace these valuable elements of University life by the efforts of an amateur wisdom, which, in devising an ideal education for women, would very probably ignore the requirements of learning. It would give no security against fads, no guarantee for adequate teaching. The educational experience of women acting by themselves would be a poor substitute for the intellectual life and scholarship of a great University." The Headmistresses have mastered that fundamental knowledge which consists in knowing themselves.

The *Preparatory Schools Review* does not conceal the fact that there has been an important split in the Committee of the Association. A majority of the Committee passed a number of resolutions in favour of less specialized tests for entrance and scholarship examinations at the public schools; whereupon the minority, recruited by a few other preparatory headmasters, felt themselves bound to protest. There had been unanimity on the Committee in recommending a paper in Divinity, English history, and geography, a paper in French, and credit for spelling, handwriting, English composition, and intelligent reading. Then the battle began. The resolutions which were carried, and the majorities by which they were supported, are as follows:—"*Latin.*—That Latin verses be dropped (13—2). That in grammar only the more common forms and constructions be required (13—2). *Mathematics.*—That all arithmetic (10—2), algebra to simultaneous equations inclusive (7—4), and Euclid, Books I., II., III. (8—5) be the standard. *Greek.*—That the standard in translation be lowered to the standard of easy narrative, such as Xenophon (9—4). That in grammar only the more common forms and constructions be required (12—2). *German.*—That no German be required, but that credit be given for it in entrance examinations on the modern side (9—4)."

The protest, adressed to the Committee of Headmasters of Public Schools, was signed by Mr. Allen, of East Sheen; Mr. Draper, of Hemel Hempstead; Mr. Earle, of Bilton Grange; Mr. Parry, of Stoke Poges; Mr. Pipon, of Llandulas; Mr. Sanderson, of Elstree; Mr. Tabor, of Cheam; and Dr. Williams, of Summer Fields, who could not agree as to the lowering of the standard in Greek and mathematics, to the extent advised by the Committee, nor as to the total abolition of Latin verses.

> We are of opinion [the eight protesters add] that, on the whole, the scholarship examinations at the public schools are well adapted for their purpose, and that the existing standard involves less pressure than would ensue from the substitution of additional papers (beyond those already set) in history, geography, and English literature—subjects calculated, in our opinion, to be attended with a great deal of objectionable cram. At the same time, we are most desirous that due credit should be given in all examinations to a boy's general proficiency, so as to avoid the radical error of specialization at an early age.

The dispute has been referred to the general body of the Association, with the result that the majority are supported by about four-fifths of the members. But it is clear that the split is a serious one, for the minority includes names which have to be weighed as well as counted.

The end of July has witnessed the breaking up of the schools, innumerable awards of honours and prizes, Matriculation lists at London and in Wales, and the inevitable Public School "Record." Metropolitan schools, as usual, have done well in the London Matriculation. Thus Bancroft's School takes four honours and six first classes; Merchant Taylors', three first classes; St. Paul's, five; City of London, seven; Central Foundation School, two; the Skinners', three; Aske's, two; the North London Collegiate, one honour and no fewer than seventeen first classes—*facile princeps.* In the Scholarship Record, St. Paul's leads again with nineteen open (212 in eleven years); Merchant Taylors' following with nineteen open and close scholarships (186 in eleven years). Over five scholarships have been won by Winchester, Cheltenham, Marlborough,

Rugby, Clifton, Bradford, Bath, Eton, Malvern, Rossall, Manchester, and Dulwich. Les us not omit to mention that Bedford leads at Woolwich, Eton at Sandhurst, Bradford at Bisley, St. Paul's in athletics, Uppingham in cricket (*teste* Wisden), Cheltenham in football, Eton in rowing, and St. Paul's in gymnastics.

The Joint Agency for Teachers ought to be a success, especially now that the promoters have taken the wise resolution to extend the scope of their operations, and to consult the interests of teachers of both sexes. The negociations are still incomplete, but there ought now to be no great difficulty in arriving at a comprehensive and workable scheme. It remains to be proved that teachers have not sufficient business instinct to manage their introductions and appointments for themselves, without the intervention and payment of a third party. There is really no reason why so many assistant masters and mistresses should be mulcted of a considerable part of their first term's salary by the payment of agents' fees. If the several bodies of teachers combine and work in the proper co-operative spirit, as we have no doubt they will, the old ten-per-cent. business should come to an end.

SUMMARY.

THE MONTH.

On July 10 a Secondary Education Conference was convened at Owens College by the authorities of the Victoria University, Manchester, in view of the expected introduction of a Government Bill. Dr. Bodington, Principal of the Yorkshire College, Leeds, presided. Mr. W. E. Willink (Chairman of the Technical Instruction Committee of the Liverpool City Council) moved: "That, in the opinion of this Conference, provision should be made in any legislation on the subject of secondary education for the establishment of a local authority charged with the due provision of secondary instruction within the area for which it is appointed, and the administration of such funds as may be at its disposal for the purpose; and that, while a majority should consist of members of the County Council, it should include (in accordance with schemes duly prepared by a local authority and approved by the central authority) persons nominated by the Crown acting through the Minister of Education, and a fixed proportion of persons representing Universities, University Colleges, associations of teachers, or other educational bodies or associations within the district." Mr. J. N. Coombe (Chairman of the Sheffield School Board) moved to insert between "should" and "include" in this resolution "act independently of such Council." The amendment was agreed to by 51 votes to 37. Mr. W. Packer (Clerk of the Leeds School Board) moved to add to the resolution: "and also in any county borough a due representation of the School Board." This was agreed to unanimously. A resolution asking that any legislation concerning secondary education should provide for an Education Minister and Council was passed, as was also a motion to the effect that the jurisdiction of the local secondary authority should extend to all schools receiving aid from the funds administered by them, with power to appeal to the central authority. Finally it was resolved: "That this Conference has learnt with satisfaction that it is the intention of Her Majesty's Government to lay before Parliament before the expiration of the present Session a Bill making better provision for secondary education, and they earnestly trust that no impediment may be permitted to prevent this intention from being carried into effect, in order that such a Bill may receive adequate consideration and discussion during the autumn recess."

In the House of Commons, on July 19, Mr. Balfour stated, in answer to a question, that he had been informed by the Lord President of the Council that it would not be practical this Session to introduce a Secondary Education Bill for consideration during the recess, either in that House or in the House of Lords.

We have referred in our leading columns to the new University of London Bill, and to its reception by the bodies primarily concerned in it. The London Polytechnic Council—a joint committee comprising representatives of the central governing body of the City Parochial Foundation, the Council of the City and Guilds of London Institute, and the Technical Education Board of the London County Council—have unanimously adopted the following resolution:—"The London Polytechnic Council, having had under their consideration the London University Commission Bill, and being satisfied that the students of London polytechnic institutes pursuing a course of study approved by the University under one or more of the recognized teachers of the University will enjoy equal facilities with students of a school of the University in graduating at the University, express their approval of the Bill and their hope that the Bill may be passed during the present session, as affording a satisfactory solution of the London University question."

At a recent meeting of the London University Defence Committee, the following resolution was unanimously passed: "That, having considered the proposed amendments to the London University Bill, this meeting is of opinion that they do not secure that the same high standard of graduation shall be impartially required alike for collegiate and non-collegiate students as heretofore, and that the sacrifice of the veto of Convocation is not compensated by any adequate guarantees for securing the continuance of the present work of the University as an independent examining board for all candidates. This meeting therefore calls upon the Member for the University to oppose the Bill if introduced." A committee of graduates has been formed, under the chairmanship of Mr. J. Fletcher Moulton, to promote these views.

The Joint Agency Committee appointed to consider what improvements might be introduced into the conditions under which assistant-masters are introduced to headmasters of secondary schools has drawn up the following "scheme for a Joint Agency for Men Teachers":—

1. The College of Preceptors, Teachers' Guild, and Assistant-Masters' Association to merge their agencies for assistant-masters and tutors into an agency to be managed by a professional Joint Agency Committee.

2. The College of Preceptors, Teachers' Guild, and Assistant-Masters' Association each to guarantee a sum of £50 per annum for three years to meet any deficit.

3. The College of Preceptors to lend its rooms and fixtures in Southampton Street, on the ground floor, at a nominal rent for the first three years. After that the rent and share of taxes to be fixed by a valuer agreed on by the Council of the College of Preceptors and the Joint Agency Committee, and the agreement to be terminable at any time by six months' notice on either side.

4. The Joint Agency Committee to consist of two representatives of each of the following bodies: College of Preceptors, Teachers' Guild, Incorporated Association of Headmasters, Assistant-Masters' Association, and one representative of each of the following bodies: Headmasters' Conference, Private Schools' Association, Association of Welsh County Schools, Association of Headmasters of Preparatory Schools, Association of Headmasters of Roman Catholic Schools, Association of Technical Institutes; and also one representative from the Oxford Appointments Committee and one from the Cambridge University Scholastic Agency, and that the Joint Committee so formed should have power to co-opt not more than four persons.

5. Each of the bodies of teachers represented on the Joint Agency Committee (i.) to send to their members, at least once a year, the prospectus of the agency; (ii.) to recommend their members to use the agency; (iii.) to suggest to heads of schools that, where possible, they should give prior notice of their vacancies to the agency; (iv.) to give facilities once a term for the sending out of forms to headmasters for the notification of vacancies.

6. None of the bodies represented on the Joint Agency Committee to derive any financial profit from the agency.

7. Except as provided in sections 2, 3, any body may at any time withdraw its representatives and terminate its agreement with the Joint Agency Committee.

The Committee has submitted this scheme to its constituent bodies, together with a number of suggested agency rules, the first five of which are as follows:—

1. The agency sends out notices of (1) advertised vacancies for headmasters, assistant-masters, lecturers, tutors, &c., and (2) vacancies notified to the agency by heads of schools and others.

2. The second class of notices are marked "private and confidential," and must be treated as such. Applications for them must be made on

a form which can be obtained from the registrar in packets of six (6d.), or twelve (1s.).

3. Before notices of either or both classes of vacancies can be sent to a candidate he must send copies of testimonials, the names of two references, and pay a registration fee of half-a-crown.

4. If the testimonials and references are considered satisfactory, there will be sent with the receipt for the registration fee a form for giving the qualifications, minimum salary required, &c., and on the information thus supplied the selection of vacancies sent to each person will be based.

5. The registration fee will hold for the term in which it is paid and the ensuing vacation, unless an appointment through this agency or otherwise has been previously obtained.

The last report of the London Technical Education Board presents a summary of the operations of the Board down to June 30. After mentioning the arrrangements for the autumn and winter, the institution of day schools in some of the larger polytechnics, the increased demand for the Board's domestic economy teachers, and other matters of interest, the report proceeds to state that arrangements have been made with King's College and University College for evening courses of instruction to be given to persons who are engaged during the day, in civil engineering, mechanical engineering, architecture, natnral philosophy, pure mathematics, electrical engineering, magnetic and electrical currents, the strength of materials, the principles of practical physiology, experimental physics, and the teaching of mathematics.

With the advance of technical education in London the Board necessarily became increasingly interested in the proposed establishment of a teaching University for London, from which the provision already made by the Board's aid—especially in mechanical and electrical engineering, chemistry, and higher commercial subjects—cannot properly be excluded. Any proposals for the establishment of such a University will, therefore, be carefully scrutinized by the Board with a view to securing within the University complete recognition of the not inconsiderable part of the work of the polytechnics and other institutions in which the Board is interested, which is distinctly of University rank.

Last month there was inaugurated a new Housewifery centre of the London School Board, in connexion with the Alma Road School, Spa Road, Bermondsey, but also serving for Abbey Street, Hackney, and a Dulwich school. A shop in the neighbourhood has been altered into something like a workman's cottage, and the idea is to bring here, for one morning or afternoon per week, classes of girls numbering fourteen or sixteen, and averaging from thirteen or fourteen years of age, to take a course of practical domestic economy. Pupils are eligible from the sixth and seventh standards, and the course will last a year, except as far as the leaving of the older scholars will affect their following it for that period. This scheme is to take the place of lessons in domestic economy given in the Board schools, where, necessarily, it has to be largely theoretical. Girls have to go out and make purchases of food; to clean, prepare, cook, and serve it; to take lessons in laundry work, washing, and getting up articles of clothing; in elementary practical hygiene; and in the cleaning, dusting, and general housework of a small home. It is hoped that this practical instruction will eventually prove more satisfactory than the plan formerly pursued. It is noticeable that girls now begin such work in the fifth standard, instead of the fourth, as heretofore, and this is a change in the right direction.

Our Welsh correspondent writes:—"The first annual examination of the county schools by the Central Welsh Board for intermediate education was held during the week commencing July 19, throughout all the schools, abont ninety in number, under the direction and organization of Mr. Owen Owen, M.A., Chief Inspector of Intermediate Schools, and the six chief examiners.—The pass list of the Matriculation Examination of the University of Wales has just been issued: 51 passed in the First Division, 56 in the Second, 59 in four out of the five subjects, and 23 in three subjects. The following were the examiners:—Latin: Professor E. A. Sonnenschein, M.A.; A. G. Peskett, Esq., M.A.; Professor R. S. Conway, M.A. (Oral); English Language and History: Professor J. W. Hales, M.A., and W. A. J. Archbold, Esq., M.A.; Mathematics: R. B. Hayward, Esq., M.A., F.R.S., and R. Lachlan, Esq., D.Sc., M.A.; Welsh: Professor J. Rhys, M.A., LL.D.; Greek: R. D. Hicks, Esq., M.A.; French: Professor Victor Spiers, M.A., B-ès-L.; German: Professor Kuno Meyer, Ph.M., M.A.; Dynamics; Professor G. M. Minchin, M.A., F.R.S.; Chemistry: H. F. Morley, Esq., M.A., B.Sc.

"The Degree Lists of the University of Wales have also just been published. There are three grades of examinations in the pass degree, called Intermediate, Ordinary, and Special, respectively. The number of successful candidates in the various subjects is as follows:—Greek: Intermediate, 25; Ordinary, 21; Special, 2; Honours, 3. Latin: Intermediate, 42; Ordinary, 25; Special, 1; Honours, 3. English: Intermediate, 42; Ordinary, 23. Welsh: Intermediate, 20; Ordinary, 7. French: Intermediate, 27; Ordinary, 9. German: Intermediate, 4; Ordinary, 2. Hebrew: Intermediate, 7; Ordinary, 3; Honours, 1. Arabic: Ordinary, 1. History: Intermediate, 33; Ordinary, 5. Philosophy: Ordinary, 20; Special, 7; Honours, 3. Elementary Logic, 85. Pure Mathematics: Intermediate, 30; Ordinary, 3; Special, 1. Applied Mathematics: Ordinary, 2; Special 1. Pure and Applied Mathematics: Honours, 1. Education: Special, 4. Pure Mathematics (Science): Intermediate, 37; Ordinary, 16; Special, 1. Applied Mathematics (Science): Ordinary, 13; Special, 1. Physics: Intermediate, 33; Final, 3. Chemistry: Intermediate, 42. Inorganic Chemistry: Final, 1. Organic Chemistry: 2. Biology: Intermediate, 16; Final, 2. Zoology: Final, 1. Elementary Logic (Science): 36. Engineering Drawing: 3. Geology: Final, 2. The following acted as external examiners:—Greek: R. D. Hicks, Esq., M.A.; Latin: Professor Postgate, Litt.D.; English: Professor W. A. Raleigh, M.A.; Welsh: Professor J. Rhys, M.A., LL.D.: French: E. G. W. Braunholtz, Esq., M.A., Ph.D.; German: A. W. Schüddekopf, Esq., Ph.D., M.A.; Hebrew: Rev. Ch. H. H. Wright, D.D.; Arabic: A. Neubauer, M.A., Ph.D.; History: A. L. Smith, Esq., M.A.; Philosophy and Elementary Logic: Professor Adamson, LL.D.; Mathematics: H. T. Gerrans, Esq., M.A.; Education: Wm. H. Woodward, Esq., B.A.; Physics: R. T. Glazebrook, Esq., M.A., F.R.S.: Chemistry: W. N. Hartley, Esq., F.R.S.; Biology: Professor W. A. Herdman, D.Sc., F.R.S.; Botany: J. Bretland Farmer, Esq., M.A., F.L.S.; Engineering Drawing: Wm. C. Unwin, Esq., F.R.S.; Geology: R. D. Roberts, Esq., D.Sc., M.A.—The Inaugural Address for the Session 1897–1898 at the University College of Wales, Aberystwyth, will be delivered at the beginning of October by Professor Henry Sidgwick, of Cambridge."

The Council of the Cambridge Training College for Women Teachers have awarded the following scholarships:—The Gilchrist Scholarship, £25, to Miss C. M. Brown, M.A. of St. Andrews University; the Council Scholarship, £20, to Miss A. M. Churley, B.A., late of the High School, Pendleton, Manchester; the Old Students' Guild Scholarship, £15, to Miss A. M. Cooke, B.A. Royal University of Ireland, late of the High School for Girls, Cork; and a scholarship of £15 to Miss L. M. Adam, B.A., late of the High School for Girls, Blackheath.

UNIVERSITIES.

(*From our Correspondents.*)

Oxford. Commemoration was exceptionally late this year, and, owing, no doubt, to the Jubilee, rather dull. Several of the Colonial Premiers received honorary degrees at the Encænia, and the prize poems, particularly the Newdigate, were well recited and well listened to. The winner of the Latin Verse was Mr. Arnold Ward, a great-grandson of Dr. Arnold, and son of Mrs. Humphry Ward, the well-known novelist. The galleries were almost entirely occupied by ladies, and they are encroaching more and more upon the area, seats being now placed for them immediately under the semi-circle. It seems a pity that the ceremony has lost so much of its old academic character.

The University has been the fortunate recipient of a generous donation from the Drapers' Company, who have given £15,000 to build a new Science Library at the Museum; and of a "Jubilee present" of a very fine collection of finger rings, presented by Dr. Fortnum. This collection, and some beautiful Sicilian Greek vases, acquired by Mr. Arthur Evans for the Museum, were exhibited at a conversazione given in honour of the visit of the Museums Association.

The English Class List, the first that has appeared, came out at the end of Term. An examination was held last year, but both candidates scratched. One man and three women are in the first class, one of the latter being a Holloway student, and the other two members of St. Hugh's Hall, Oxford—a Hall which has supplied two of the women teachers of the subject. In this school, members of the University attend some of the lectures given by men, but provided for the women, the men's

colleges not having been very generous in supplying tuition, and the University doing nothing except for the early language and literature. The Association for the Education of Women has been fortunate in securing the service, as tutor in English literature, of Miss Sheavyn, M.A. Lond., who is, probably, the best lecturer on modern English literature in Oxford; but the undergraduates have not yet found this out. Under her direction, and that of Miss Wardale, the language tutor, the work is likely to be thoroughly well organized, as far, at least, as the women are concerned.

Not much is heard in Oxford of the Women's University scheme. It has never been taken very seriously, nor is it at all likely that it would satisfy women who desire a degree that will clearly indicate the character of the education they have received. The memorial of the Headmistresses on the subject would probably be cordially supported by the staff of resident women teachers at Oxford, whose position is every day growing stronger, and with whom rests the direction of the work of most of the women students. To bring the staff of the Association and the Halls into closer relation with the schools, whether public or private, which send up girls to Oxford, so that the problems of women's education may be considered by those actually engaged in it, must be the work of the next few years; and this may lead, if the women are allowed to solve these problems by practical experience, to very useful results. Unfortunately, it is not uncommon to tell women to work out a system of education for themselves, but not to inquire how far they have already done so, and what result they have arrived at. Hence these schemes for a Women's University, framed without consultation of the persons most concerned. The Oxford undergraduates seem less unfavourable to the women's claims than Cambridge men. A motion at the Union condemning the action of the Cambridge Senate was lost by a comparatively small majority, and it was interesting to hear the mover, Mr. J. A. Simon, profess himself a convert to the women's cause after having voted twice against it. The conduct of the Cambridge men may have begun to produce a reaction.

St. Hugh's Hall has received and accepted a generous offer of £1,000 from Miss Clare Evelyn Mordan, to found a scholarship to be called by her name. The only condition attached is that the holder shall, during her tenure of the scholarship, have nothing to do with vivisection. St. Hugh's was founded by Miss Wordsworth in 1866, and is conducted on the same lines as Lady Margaret Hall, but it is intended for poorer students, and the fees are consequently lower.

The Summer Meeting of the University Extension will be held this year in Oxford, and it is thought likely that it will be attended by a large number of foreigners. Two courses of lectures will be delivered in French. Mr. Keatinge, Tutor and Lecturer in Education to the Delegates of Local Examinations, who has been, with the assistance of Miss A. J. Cooper, the assistant tutor organizing the training scheme for teachers in secondary schools, which will come into operation next term, is giving a course of lectures on education.

London. On the 11th of July an address from the University was presented to the Queen at Windsor on the occasion of her Diamond Jubilee. The deputation of Fellows and Graduates appointed by the Senate to make the presentation consisted of the Chancellor, the Vice-Chancellor, Sir Joshua Fitch, Prof. Carey Foster, and three members of Convocation. The address, as reported in the daily papers, was brief and abrupt; but Her Majesty no doubt appreciated the brevity; at any rate, it could make no difference in her gracious reply, which was already prepared.

The privilege of making a personal presentation to the Queen upon the throne was petitioned for and granted at the time of the Jubilee proper, ten years ago. The petition represented that the Government which founded the University intended that it should be placed "on an equality in all respects with the ancient Universities" (which already enjoyed the privilege), and that a favourable reply to the petition "would be a great encouragement to the Senate in the discharge of their arduous duties." It is to be hoped that the granting of the petition brought with it the expected advantages.

We hear, in various quarters, many inquiries about the University Calendar. This document appears to be still in a state of suspended animation. One thing strikes us, viz., that it will soon be of little use, so far as the current year is concerned.

The mention of the Calendar reminds one of a curious little episode in its recent history. In glancing through the volume of "Minutes of Senate" for 1896, we found buried away in the minutes, dated June 24, a mention of letters received from sundry outsiders calling the attention of the Senate to an "unauthorized publication" of the Calendar, and there is no mystery as to what this expression means. It seems that, seven or eight years ago, it was ordered by the Senate that the Calendar, which used to make a respectable single volume, in linen binding, should be published in two parts. These parts were issued by or for H. M. Stationery Office (which claimed the book) in the shabbiest o paper covers, the one, containing matter that scarcely anybody would buy, being charged three shillings, the other, containing a whole year's examination papers, for which there was a large sale, being charged only one shilling. Forthwith, an enterprising body of independent teachers saw an opening for a stroke of business. It bought up a large number of this second part, sandwiched its contents between sheets of its own announcements, bound the lot in good cloth binding, and sold it at the same price of one shilling a copy. The uninitiated public naturally assumed that the whole thing—papers, examinations, inclusive—belonged to the aforesaid body; and hence presumably the complaints of such as became enlightened. The University now proposes to take over and control the publication, to restore the one-volume issue, and to increase the price to 5s. per copy (net?).

The spring and summer series of examinations began with the Pass M.B. of May, at which 38 candidates out of 52 obtained the degree.

The June Matriculation Examination has been the largest on record: close on 2,300 candidates entered their names, and nearly 2,240 actually attended. Of these, 1,106 pass; but only 18 are in Honours; 660 are in the First Division, and 428 in the Second. The pass list brings out rather strikingly a difference, ordinarily noticeable enough, between the January and June examinations, arising out of the fact that most schools, and all the best ones, arrange their classes with a view to the latter; so that the proportion of private students is much smaller than in January. In the pass list of last January, two-thirds of the Honours Division consisted of private students; and these, and one or two others, being "over-age" candidates, it was only possible to award three out of the six distinctions. In the present list there is not a single private student in the Honours Division (not very many in the others), and the six distinctions are severally awarded to the first six candidates in succession. The principal exhibition goes to F. W. Henderson, of Middlesbrough High School; the second exhibition to E. E. Walker, of Bradford Grammar School; the third to T. J. Morrissey, of University College, Blackrock; the first and second prizes go respectively to S. Robertson and P. R. Bolus, both from Bancroft's School; and the third prize to John Frame, of Burton Grammar School and Mason College. The names of no less than 342 women appear on the list, implying an entry of towards 650; but only one woman is in Honours, viz., Miss A. E. Bennett, of the North London Collegiate School, who stands in the fourteenth place.

APPOINTMENTS, &c.

The Rev. Walter Locke, Sub-Warden of Keble College, Oxford, has succeeded to the Wardenship of that College.—The Rev. G. E. Newsom has been elected by the Council of King's College, London, to the office of Vice-Principal.—The Rev. E. B. Hugh Jones, assistant-master of Bromsgrove, has been appointed Vice-Principal of St. John's College, Battersea.

The Savilian Chair of Geometry at Oxford, vacant by the death of Professor Sylvester, has been filled up by the appointment of Mr. William Esson, F.R.S., whose election was generally expected in the University, as he had been acting for some time as Deputy Professor. Mr. Esson is a Fellow of Merton.—The Council of King's College, London, have elected Mr. W. A. S. Hewins, M.A. Pembroke College, Oxford, Director of the London School of Economics, to the Tooke Professorship of "Economic Science and Statistics."—Dr. E. W. Hope has been appointed Professor of Public Health at University College, Liverpool.—Miss M. Bentinck Smith has been appointed Lecturer in Philology at Holloway College.

The Rev. W. Yorke Fausset has been elected Headmaster of Bath College in the place of Mr. T. W. Dann, who, to the great regret of all his old pupils, has recently resigned, after nineteen

years' service. Mr. Fausset was classical scholar of Balliol College, he obtained a First Class in Classical Moderations and the Classical Final School; he was also Craven Scholar and obtained the Gaisford Prize for Greek Prose, as well as the Ellerton Theological Essay, and he was for four years Headmaster of Ripon Grammar School.—The Rev. Sydney Rhodes James, M.A., has been appointed Headmaster of Malvern College, in place of the Rev. St. John Gray, who resigned the position owing to ill-health. The new master was educated at Haileybury College, where he gained a scholarship at Trinity College, Cambridge, at which University he won the Bell Scholarship in 1875. In 1878 he graduated as Eighth Classic, and was honourably mentioned for the Chancellor's medal. He has been assistant-master at Eton since 1879, and house-master since 1889.—The Rev. T. J. Thorburn, LL.D., Headmaster of Caistor Grammar School, has been appointed Headmaster of Odiham Grammar School.—Mr. J. Morgan, B.Sc., of the County School, Llanelly, has been appointed Headmaster of the County School at Ebbw Vale, Monmouthshire.—Mr. H. L. Joseland, M.A., has been elected Headmaster of Burnley Grammar School; and Mr. Ransome Headmaster of Whalley Grammar School, in place of Mr. Alan Thomson, resigned.

After the Michaelmas term there will be a vacancy in the Principalship of Holloway College, Miss Bishop having resigned that office.

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A Sub-Committee has been appointed by the Technical Education Board to inquire into the present state and requirements of commercial education in London.

It is proposed in the next Christmas vacation to hold a holiday course of lectures on Education in London, provided that a sufficient number of teachers and others indicate their desire to participate in such a course. A preliminary announcement will be found in our advertising columns.

The sixty-seventh annual meeting of the British Association is this year to be held in Toronto. The meeting will commence on Wednesday, August 18, when the presidential address will be delivered in the Massey Hall by Sir John Evans; and the programme of arrangements, including sectional meetings, social functions, and excursions, covers a period extending from Monday, August 16, to Thursday, August 26. The Governor-General and Lady Aberdeen will hold a reception in the Legislative Buildings on Thursday, August 19. On Tuesday, August 24, there will be a garden party at Trinity College, followed by a conversazione in the University Building; and on the following day there will be a banquet, in honour of Lord Kelvin, Lord Lister, and Sir John Evans.

The next meeting of the American Association for the Advancement of Science will be held at Detroit, from August 9 to 14. Papers are to be presented from the University of Michigan, Johns Hopkins University, Massachusetts Institute of Technology, Cornell University, Princeton University, Lehigh University, and from many of the most important laboratories in the United States.

The following are the dates fixed for the scholarship examinations at Cambridge:—Trinity, St. John's, Gonville and Caius, King's, Pembroke, Jesus, Christ's, and Emmanuel, Tuesday, November 2, 1897; Peterhouse and Sidney Sussex, Tuesday, November 30, 1897; Clare and Trinity Hall, Tuesday, December 7, 1897; Queens', Wednesday, January 5, 1898; Corpus Christi, Magdalene, and Selwyn Hostel, Wednesday, March 18, 1898; Downing, Tuesday, April 19, 1898.

VICTORIAN ERA EXHIBITION.

THE EDUCATION SECTION.

It was an excellent idea of the promoters of the Victorian Era Exhibition to devote an entire section to Women's Work, in view of the importance it has assumed during the last sixty years. Nor can we find anything to criticize in the fact that a sub-section is devoted to Education, since teaching is women's profession beyond all others. The exhibition is, on the whole, an interesting one, and, although one might be disposed to object that there is nothing very new in it, and that many a school can produce as good work as that which happens to be displayed, still the fact that school-work is exhibited, and that the British parent looks at it in his hundreds, and perhaps her thousands, may possibly lead to increased interest in education and much that appertains to it. The best section of women's work is doubtless Applied Art, where admirable embroidery, lace, pottery, carved woodwork, *gesso duro*, embossed leather, woven goods, and furniture—all the work of women—are visible. But, necessarily, this visit to the Earl's Court Exhibition deals only with the sub-section Education.

One is inclined to ask why the list of the committee, as given in the programme, was not revised by some educationist—say the vice-chairman. It is a poor reward to hack off the Rev. T. W. Sharpe's *e*, when he has served the Education Department so long and so well; but for "*Science and Art Department*" following his name, one barely recognizes Sir John Downelly; Mrs. Henry Sedgwick also presents a difficulty, while Miss Hurlball is unfamiliar. But these are mere spots on the face of the sun, and they are followed by an excellent *résumé* of Miss Bremner's work on "The Education of Girls and Women from 1837 to 1897."

An admirable idea has been carried out in presenting the visitor with the portraits and photographs of educationists, such as Mrs. Sidgwick, Miss Buss, Miss E. P. Hughes (not a flattering likeness), Mme. Bodichon, Jane Martineau, Anna Swanwick, Miss Beale, Miss Wordsworth, Miss H. M. Jones, Mrs. Bryant, Miss A. J. Cooper, Miss A. J. Clough, Dr. Elizabeth Dawes, Mrs. William Grey, and the late Miss Emily Shirreff. One has the satisfaction of observing that the leading women educationists of Britain are most distinguished looking. Not less happy was the idea of displaying the portraits of men who have initiated and assisted the recent revival of education amongst women. These are mostly represented as members of the Councils of Women's Colleges and Educational Associations. Amongst them are easily recognized Dean Plumptre, Erasmus A. Darwin, Rev. Mark Pattison, F. D. Maurice, Dr. Talbot, Charles Kingsley, Dean Bradley, Professor Green, and a host of others.

The North London Collegiate and Camden Schools have some interesting charts, botanical and other drawings, sketches from nature and still life. Here is a photo of Miss Buss and her mother in 1856, surrounded by a group of girls in low-necked dresses, short sleeves, elastic-sided boots, and leghorn hats, reminding us how unhygienic dress too often was before the sixth decade of the Victorian Era closed. Here is a tell-tale in use at one of the Camden Schools: "I began my lessons yesterday at ...4 ... o'clock and finished them at ... 4.30... ." Of course, the hours are filled in by the pupil—let us hope always correctly. There is also, from the North London Collegiate School, a chart showing the number of hours devoted to certain subjects per week throughout the school, and another interesting table showing the development of the connexion between the Universities and the North London Collegiate School from the opening of the Cambridge Local examinations to girls, in 1863, down to 1896. When the Universities permitted a further connexion between themselves and girls' schools by the establishment of "hostels" for women students in University towns, a larger link was forged by the North London Collegiate. In all, it has sent 78 students to Cambridge, 133 to London, and 8 to Oxford.

Miss Mason sends some good manual work from the House of Education at Ambleside, including basket-work, embossed leather, brass, and copper *repoussé*, paper-folding, wood-carving, and so forth. Cheltenham Ladies' College is fairly well represented, and this is also the case with Bedford College, the Cambridge Training College, the Maria Grey, the London School of Medicine for Women, the School Board for London, and Mme. Bergmann Oesterberg's Physical Training College. The Froebel Society sends exhibits of kindergarten work, illustrating different occupations, and the Girls' Public Day School Company sends a large and varied contribution. Some of the drawings, maps, designs, kindergarten modelling, geometrical models, cut paper-work, needlework, show very creditable proficiency. Evidently the Girls' Public Day School Company acknowledges that there is a considerable current setting in in favour of applied art. One or two designs for book-covers by a pupil of the Nottingham High School attain quite a respectable degree of excellence, and show more evidence of originality than the "drawing" copied by the pupil from the flat, and "touched up" by the master for taking home at Christmastide, used to show in bygone days. Applied art appears once more in Miss Prince Browne's striking exhibit of tailoring and dress-making, and in exhibits of doll's furniture, book-binding, net bags, chairs, tables, and other useful objects made by the pupils of various schools. The Borough Road Polytechnic has some of its technical work on view, including boot and shoe making, laundry-work, samplers, and home-made dress-making. Recent models of school furniture are not well represented, and this seems rather a pity, in view of its importance to educationists, and the excellence of the opportunity afforded for display. A good many of the objects are certainly not made the most of; they are there, but they are not sufficiently in evidence. Excellent botanical mounts are hidden away, or almost hidden, and need to be sought for by those who wish to see them, instead of being patent to the visitor.

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COLLEGE OF PRECEPTORS.—HALF-YEARLY GENERAL MEETING.

THE Ordinary half-yearly General Meeting of the members of the Corporation was held at the College, Bloomsbury Square, on Saturday, the 24th of July.

The Secretary having read the advertisement convening the meeting, Dr. WORMELL, Vice-President, was appointed Chairman.

The Report of the Council was laid before the meeting, and was taken as read, a copy having been sent to every member of the College. It was as follows:—

REPORT OF THE COUNCIL.

The Council beg to lay the following Report of the proceedings for the past half-year before the members of the Corporation:—

1. In their last Midsummer Report the Council had the satisfaction of announcing a substantial increase in the number of entries for both the Certificate and Junior Forms Examinations, and they had hoped to be able to report a further increase at the corresponding examinations this year. Circumstances have, however, conspired to defeat their expectations, and, instead of an increase, there is actually a falling off of nearly 10 per cent. in the entries for the Certificate Examination, while an increase of about the same proportion in the Junior Forms Examination does not make up for the deficiency. The number of entries for the Certificate Examination is about 6,000, that for the Junior Forms Examination 1,200, making a total of 7,200, as compared with 7,648 in June last. The fixing of a later date for the Midsummer Examination, in order that it might not clash with the new Day Examinations of the Science and Art Department, thus rendering it impossible to publish the results as early as usual, has no doubt affected, to some extent, the entries this time; but a still greater effect is probably due to the excitement attending the celebration of the Queen's "Diamond Jubilee" in all parts of the country, in the week immediately preceding the examination, which has been regarded by some teachers as likely to exercise an unfavourable effect on the results. The question of the date is, undoubtedly, of great importance in its relation to the arrangement of the work of schools in the early part of the year, and the Council propose to take steps to inform themselves as to the opinion of heads of schools on the subject. The Public Distribution of Prizes and Certificates to the successful candidates at the last Christmas Examination took place at the College on the 31st of March, when the Chair was occupied by the Right Hon. James Bryce, M.P. Due notice will be given of the date of the forthcoming Distribution.

2. In addition to the General Examination, the Professional Preliminary Examination, for intending Medical Students and others, was held in the first week in March, and was attended by 254 candidates.

3. For the Midsummer Examination of Teachers for the College Diplomas, 154 candidates have entered, including 12 who offer themselves for examination for Certificates of Ability to Teach. The examination will be held at the following local centres:—Birmingham, Bristol, Leeds, Manchester, Guernsey, and Paris.

4. In addition to their own examinations of pupils and teachers, and the examination of schools by Visiting Examiners, the Council have conducted, during the past half-year, the Preliminary Examinations of the Pharmaceutical Society of Great Britain and Ireland.

5. The twenty-fifth annual series of Lectures to Teachers on "The Science and Art of Education" commenced, on the 11th of February, with a course of twelve lectures on "Child Philosophy in its bearing on Education," by Dr. James Sully, M.A., and a course of twelve lectures on "The Practice of Education" will be delivered in the autumn by Dr. J. J. Findlay, the Principal of the College of Preceptors' Training College.

6. The usual monthly evening meetings of the members have been held during the past half-year, at which the following papers have been read:—"On the Use of the Lantern in the Teaching of History," by Francis Bond, M.A.; "On Geometry in Schools," by G. Heppel, M.A.; "On the Teaching of English Composition," by Francis Storr, B.A.; "On Retrospective History," by H. E. Malden, M.A.; "On the Claims of Individuality in Education," by R. Wormell, D.Sc., M.A. The Papers and discussions have been reported, as usual, in the *Educational Times*.

7. The Training College for Teachers in Secondary Schools has now completed its second year, and the Council regret that they are unable to report any marked increase in the number of students in attendance.

During the year four students have taken the full course of training, while about a dozen teachers (men and women) have availed themselves of the opportunity now afforded them of attending one or more courses of lectures delivered by the Principal. While the progress in the work of training taken up by the College is, thus far, not very encouraging, indications are not wanting of an awakening interest in the subject on the part of heads of schools. A Joint Committee for the consideration of the whole question of training has recently been formed, which is collecting a body of evidence as to the way in which the work of training is carried on under varied conditions in different classes of schools, with a view to arriving at definite conclusions as to the best methods of combining the study of theory with the actual work of teaching; while an important step, in respect of recognition of the principle of training, has recently been taken by the University of Oxford in the establishment of an examination for teaching certificates, which also requires systematic training in teaching as preliminary to the practical test.

8. From a statement made by the Duke of Devonshire, in reply to a question in Parliament, it may be inferred that, though no material progress with a measure for the organization of secondary education is likely to be made during the present Session, the Government intend before the close of the Session to bring in a Bill for this purpose, in order that it may be fully considered by all concerned, and opinions elicited, before the matter comes to be formally debated in Parliament. The Joint Committee for Promoting Legislation for Secondary Education, referred to in the last report, has held several sittings, and the main points on which they are agreed have been embodied in resolutions which have been brought under the notice of the Government. The provisions of the Bill, when it is introduced, will afford ample material for further discussion by the Joint Committee.

9. During the past half-year, the Diploma of Fellow has been conferred on one candidate, that of Licentiate on eleven, and that of Associate on fifty-eight, who had passed the required examinations. Thirty new members have been elected, and notice has been received of the withdrawal of five. The Council regret to have to report the death of the following members:—Mr. W. B. Pinches, L.C.P., Mr. W. G. Lemon, and the Rev. J. E. Wilson.

Dr. Bell, referring to paragraph 7, asked whether it would not be advisable to throw open the Training College to women as well as to men, seeing that women had as good a claim as men to be regarded in any scheme for the training of teachers.

The Dean pointed out that women were admitted to certain courses of lectures.

Dr. Findlay said that to do what was suggested would involve considerable additional expense, and he did not think the Council of the College were prepared to do more than they were at present doing. The courses open to women teachers were the same as those attended by the male students; but a complete course of training, including practice in school work, would require arrangements of a more extensive character, including the appointment of a lady as tutor. The lectures referred to might, however, be used to supplement a regular course of training in the case of women students.

Mr. Brown considered the question of training to be of great importance. The College had shown its interest in the subject by spending money very liberally in making a start with a scheme of systematic training. There was another direction in which the College might do useful work, and that was by urging on the Government to do something at once for this purpose. There was no need to wait for a complete Secondary Education Bill. In a short time there would be a great demand for teachers in secondary schools. The elementary teachers of the country were being trained at the expense of the Government to take the place of secondary teachers. Their training was paid for by the State, by the County Council, and by the Science and Art Department, and he could not see why these advantages should not be extended to teachers in secondary schools. If new schools were to be established in the immediate future, the teachers must be prepared beforehand. When the Technical Instruction Act was passed, the teachers were prepared at the expense of the County Councils. He should like to see the College urging the Government not to postpone legislation for an object on which all were practically agreed.

The Chairman said he did not think there was any falling off in the interest taken in the subject of the training of teachers. He hoped that the College would act as had been suggested, and keep the question in the front of public discussion, even to the extent of urging Government to take steps to provide means for training teachers in secondary schools. With regard to extending to women the training provided at the College, he did not think the remarks which had been made were out of place. It was right that the women members of the College should be considered, and, if the Council were prepared to expend a large sum from their resources for the one section, it was natural to consider what equivalent might be given to the other section. Though there had been no urgent demand on the Council to make provision for the training of women teachers, they had, in fact, supplied funds to assist schemes for this purpose, which others had devised and were carrying out. No doubt in time it would be found necessary to modify their ideas of the kind of training to be given. It could not be asserted that the scheme they had hitherto been carrying out was so successful as not to require amendment. It would have to be modified in some way, and it might be that, in any modification that might be undertaken, regard would be had to the equal claims of men and women teachers.

The report of the Council was adopted.

The Dean then presented his Report, which had been printed and distributed among the members present, and which was as follows:—

The Dean's Report.

In addition to the general statement of the examination work of the College during the past half-year, which has been embodied in the report of the Council, I have now to submit to you, in detail, the statistics and results of the various examinations.

The Midsummer Examination of candidates for Certificates took place on the 29th June to the 3rd July at 195 Local Centres and Schools. In the United Kingdom the Examination was held at the following places:—Accrington, Balham, Barnard Castle, Barnstaple, Bath, Belfast, Betley, Birmingham, Bishop Auckland, Blackpool, Blackrock (Co. Cork), Boston Spa, Bournemouth, Braintree, Brecon, Bridgwater, Brighon, Bristol, Broxbourne, Bungay, Camborne, Cardiff, Carnarvon, Caxton, Cheltenham, Cirencester, Clacton, Coleraine, Croydon, Darlington, Deal, Dolgelley, Doncaster, Dublin, Dumfries, Durham, Ealing, East Grinstead, Edgbaston, Edinburgh, Ely, Epsom, Exeter, Eye (Suffolk), Falmouth, Forest Hill, Galway, Goudhurst, Great Malvern, Greenwich, Halesowen, Hartlepool, Hastings, Hatfield, Haverfordwest, Hereford, Herne Bay, High Wycombe, Horsmonden, Huddersfield, Hutton (Preston), Ilkley, Jersey, Kingsbridge, Kingston-on-Thames, Kington (Herefordshire), Langland Bay, Launceston, Leamington, Leeds, Liskeard, Liverpool, Llandilo, Llandudno, Llandyssul, London, Lowestoft, Lymm, Lytham, Manchester, Margate, Market Bosworth, Market Harborough, Mirfield, New Brighton, Newbury, Newcastle-on-Tyne, New Malden, Newmarket, Newtownbarry, Northwich, Nottingham, Ormskirk, Oswestry, Oundle, Painswick, Pencader, Plymouth, Pontypridd, Portsea, Portsmouth, Ramsgate, Rhyl, Rochester, Ruthin, Rye, St. Anne's, St. Leonards-on-Sea, Salisbury, Sandwich, Seaford, Seaforth, Shebbear, Sheffield, Sherborne, Shrewsbury, Sideup, Sittingbourne, Snettisham, Southampton, Southend, Southport, Southwell, Spalding, Steyning, Stockton-on-Tees, Sunderland, Sutton, Taplow, Taunton, Tenby, Tetbury, Thame, Torquay, Totnes, Trowbridge, Truro, Tunbridge Wells, Twickenham, Uckfield, Walsall, Waltham Cross, Weston-super-Mare, Wells, Weybridge, Whitchurch (Salop), Winchester, Windsor, Wirksworth, Woodstock, Woolhampton, Workington, Worthing, Yarmouth, Yeovil, York. The Examination was also held at Gibraltar, Grenada, Ceylon, Jamaica, Nassau (Bahamas), Freetown (Sierra Leone), Constantinople, and S. Servan (France).

The total number of candidates examined (not including 47 examined at colonial centres) was 5,812—3,902 boys and 1,910 girls.

Taking the Christmas and Midsummer Examinations together, the total number of candidates examined during the year ending Midsummer, 1897 (not including those who attended the supplementary examinations in March and September), has been 14,375.

The following table shows the proportion of the candidates at the recent Midsummer Examination who passed in the class for which they were entered:—

	Entered.	Passed.	Percentage.
First Class	498	280	56
Second Class	2,325	1,332	57
Third Class	2,989	2,023	68

This does not take account of those candidates who obtained Certificates of a lower class than that for which they were entered.

The number of candidates entered for the Junior Forms Examination (not including 29 examined at colonial centres) was 1136,—658 boys and 478 girls. Of these, 830 passed, or 73 per cent.

At the Professional Preliminary Examination for First and Second Class Certificates, which was held on the 2nd to 4th of March, in London and at four Provincial Centres, viz., Birmingham, Bristol, Leeds, and Liverpool, 249 candidates presented themselves.

The Examination of Teachers for the College Diplomas took place on the 6th of July and four following days, in London and at the following Local Centres:—Birmingham, Bristol, Gilcrux, Guernsey, Leeds, Manchester, and Paris. It was attended by 136 candidates, of whom 80 were men and 56 women. The subjects of examination included the Theory and Practice of Education, Scripture History, English Language, English History, Geography, Arithmetic, Algebra, Euclid, Trigonometry, Analytical Geometry, Mechanics, Physics, Astronomy, Latin, Greek, French, German, Italian, Animal Physiology, Botany, Geology, Chemistry, Drawing, and Music. On the results of this examination,

6 candidates have obtained the Diploma of Licentiate, and 44 that of Associate; while 7 candidates have obtained Certificates of Practical Ability to Teach.

The Preliminary Literary Examinations of the Pharmaceutical Society have been held, as usual, at the times appointed. The number of candidates examined during the past half-year was 793.

Mr. Orchard thought that alterations might with advantage be made in the time-table, so as to allow such a subject as Latin to be taken in the morning instead of in the after part of the day; though he confessed that it was easier to point out a defect than to show how it could be remedied without causing difficulties with other subjects. With regard to the Junior Forms Examination, it had been pointed out to him lately that there was a tendency to make the papers too difficult for the class of pupils for which this very elementary examination had been devised.

The Dean pointed out the difficulties that beset any material alteration of the time-table, and the many considerations that had to be taken into account, having regard, in particular, to the desirability of enabling the bulk of the candidates to complete their subjects at as early an hour as possible. With regard to the Junior Forms Examination, it had been the endeavour of the Council to keep the standard as low as possible, and it would be seen that the comparatively large percentage of passes did not indicate that the papers were too difficult.

The Report was then adopted.

A vote of thanks to the Chairman concluded the proceedings.

PROMOTION WITHOUT EXAMINATION.

(A Note from Italy.)

For some fifteen years the Italian intermediate schools, both classical and technical, have made a practice of granting licences and promotion to a higher standard, without previous examination, to such students as have, in every month of the scholastic year, obtained at least nine-tenths of the marks allowed for good conduct and four-fifths of those assigned to each subject. This measure has proved exceedingly popular on all hands: from the teacher's standpoint, it minimises a dreary task in the hottest part of the year; from that of willing and fairly bright scholars, it relieves them from the drudgery of preparing the whole curriculum just before the holidays, and enables them to earn exemption from the common test, gaining thereby the praise and congratulations of their elders; whilst, from that of the parents, it affords their offspring an early opportunity of exhibiting their talent and entering upon the career of distinction which awaits them. The system is certainly convenient; but do its results fulfil the end for which it was introduced, and warrant the favour it receives and the zeal with which it is put into practice?

The "licentiates of honour," for instance, the best specimens produced under it by both branches of intermediate education—the State *lycei* to wit, and the public and private technical institutions—are provided by the Minister of Public Instruction with a yearly competitive examination in Italian literature: and the Departmental Commission appointed to report on this examination deplores, year by year, a falling off in the standard attained, or, at best, a progress amounting to little or nothing. This judgment is given by a tribunal that cannot possibly be suspected of pessimism, and is confirmed, moreover, by facts pointing independently to the same conclusion. Now, if stagnation, or worse, is all that the pick of those licensed without examination, the "licentiates of honour," have achieved, what may logically be expected of their less brilliant fellow-students? It may be said that the competition refers to one branch of letters alone, and that backwardness in this does not prove failure in classics, mathematics, modern languages, technical subjects, &c. True: but backwardness in every direction—not in the extent of the curriculum, by the way, whose endless variety is preeminently modern, but in the amount learned, digested, and assimilated—is a problem with which not only the organs of the schools, but even literary and scientific, nay, political journals, have been attempting to cope in Italy for some time past—a sign that the evil so generally complained of really exists. Want of physical and moral stamina in the youth of the country, the excessive number of prescribed subjects, a defective method of teaching, or all these causes put together, may be allowed a share in bringing about this deplorable state of things; but the system of examinationless promotion is certainly not the least of the factors to which it is due.

Every branch of knowledge, especially every scientific branch, forms a whole whose parts are so bound up in one another that it must be climbed step by step, whilst it is only from above that those already taken can be properly viewed. Take mathematics as an example. How is it possible, without the preliminary and fundamental theorems, to grasp those derived from them; and, on the other hand, how can the value of the former be fully appreciated so long as their relation to the latter is not understood? The rules of theory, again, must be familiar ere they can securely and intelligently be put in practice; but, at the same time, it is their practical application alone which enables them to be thoroughly mastered. Now the system in question does away with the need of reviewing the year's work as a whole, of turning it into an organized body of scientific attainment, whose every part is classified according to its relations to the rest, so as to allow of primary notions being plainly distinguished from those dependent upon them, and so so forth. In order to meet official requirements it is sufficient to learn, for the time being, the lessons to which the prescribed monthly marks are allotted, and which may then safely be consigned to oblivion. Thus the mind, instead of being stored with orderly facts, mutually confirmed and illustrated, is encumbered with a mass of unconnected data; much as the site of a house might be filled with sand, iron, bricks, lime, timber, and stone, without the building itself having ever been commenced. Such is the result of a method whose chief recommendation is that it annually spares the teaching body the trouble of setting and revising examination papers, and the scholars that of preparing to give an intelligent account of what they have learned.

But it is also claimed that the system in vogue distributes diligence evenly over the whole year's course, thus preventing its being relegated to the last moment in the shape of a feverish and superficial attempt to make up for lost time. This drawback of examinations could, however, equally be met by making the monthly minimum of marks a *sine qua non* of admission to the final test, as has been sensibly done in the elementary schools by Signor Baccelli; nay, by giving average monthly proficiency a numerical value in marks, to be reckoned side by side with those actually obtained at examinations, the uncertainty of the latter's results (another objection against them urged in defence of the actual practice) could be effectually counteracted. Those who had done well during the year would, in fact, secure a pass, thanks to their persevering efforts, even if fortune had frowned upon them in the papers set them; whilst those who had barely qualified for presentation to the examiners—a privilege denied to those who had acquitted themselves badly—could not complain if their uniform mediocrity did not suffice to turn the scale in their favour when found wanting at the final ordeal. After all, *must* all those who go up for it invariably be successful? A further plea for adhering to the present system is the alleged intolerable burden which examination would lay even on the best students, in view of the number and extent of the subjects they would have to prepare, to the detriment of body and mind. This is truly an astonishing contention; for, if the curriculum of the Italian classical and technical institutions be indeed but a kaleidoscope swiftly whirled before the eyes of scholars unable to retain the motley images it presents, so that they cannot, without danger to health and intellect, even attempt to show that they have assimilated the notions set before them, it is evident that such teaching is practically useless, and that the remedy must be sought, not in the mere exemption from examinations, but in more radical measures.

Now it may be controvertible whether the number of specified subjects is excessive or not, but there can be no question whatever that their extension is exaggerated in a way that should at once be put a stop to. Every teacher, especially of non-literary and, amongst these, of secondary subjects, treats his own as though it were the foremost of all, the subject of subjects; he accordingly amplifies it, dives into it, and analyses it in such a way that his hearers, already surfeited with other subjects, must either give up all idea of following him, or must content themselves with deriving a minimum of advantage from a maximum of toil. This exaggeration is an undeniable fact, well known to all who take an interest in Italian educational matters; and the superficial smattering it produces is the bane of sound general instruction.

The latter, which is supposed to be the object of the intermediate schools, consists, not in perfect familiarity with every possible branch of science, but in mastering the elements and general principles, with the chief corollaries, of those actually needed later on; not in pushing theory to its utmost practical applications, but in giving the most usual and most important, whose practice is the key to the rest: not in teaching everything, in a word, but in teaching how to learn—showing, moreover, with the occasional help of example and experiment, how the foundations laid may be built upon in after life, and may prove of service in the professions and industries, in commerce, &c. The ultimate deductions from every science, whether theoretical or practical, may be almost infinitely multiplied; but it is the part of the Universities and of actual experience in the world to find out which of these require further attention; that of the schools is a thorough grounding in essentials.

Were intermediate education in Italy directed to this end, instead of attempting to create living encyclopædias, its curriculum would no longer be so crushing as to render examination under it hurtful to mind and body; and the promiscuous passing of untested scholars, now looked upon as the only alternative, need not continue to lower the general standard of proficiency.

REVIEWS.

THE ENGLISH HIVE.

Social England: A Record of the Progress of the People in Religion, Laws, Learning, Arts, Industry, Commerce, Science, Literature, and Manners, from the Earliest Times to the Present Day. By Various Writers. Edited by H. D. Traill, D.C.L. 6 Vols. (Cassell & Co.)

"Social England," which is now complete, after several years of continuous application, is a historical study of the growth and achievements of the English swarm—a history of England as a Society of Englishmen, not as a Polity, nor as a State among States. At any rate, that is Dr. Traill's plan and conception; but he sees clearly enough that history is not to be divided precisely on those lines, nor to be divided absolutely on any lines. The most you can do is to lay greater stress upon particular parts—select your point of view and be content with the picture which it offers, remembering that there are certain salient objects in the landscape which will be visible from any and every point of view. The story of a nation cannot be told in an exclusively social aspect, for phenomena depend on influences, and influences on surroundings, so that a Society is of necessity shaped by its laws as a Polity, and by its limitations as a State. When J. R. Green told the history of the "English people," and entered his protest against certain excesses of the "drum and trumpet" school of historians, he did not attempt to exclude the annals of war and dynastic arrangements. He knew it to be impossible, and even undesirable. In the subdivisions of Dr. Traill's title there is nothing to indicate the presence in this voluminous work of numerous chapters of political and international history, but they exist none the less, and make up a not inconsiderable part of the whole. Still the greater part of the space is devoted to purely social and economic questions, to the progress of literature, art and science, the army and navy, and religion. The various studies, which are independent of each other, have been entrusted in the main to experts, and the narrative is thus thorough and generally accurate, leaving little to be desired by the reader who looks for no more than a general survey. Though this plan gives the work a piecemeal character, and robs it to some extent of picturesqueness, there is ample compensation in the completeness of the parts and their fulness of detail.

As we noticed the first five volumes at the time of their publication, we may examine the sixth and last of the series on its merits as a record of the seventy years between 1815 and 1885, when Dr. Traill has elected to bring his survey to an end. The seven hundred pages assigned to these seventy years are by no means too many for the adequate treatment of the four sections into which the subject is divided—Peace, Retrenchment and Reform (1815–1832), Progress and Re-action (1832–1846), The Rule of the Middle Class (1846–1865), and the Succession of the Democracy (1865–1885). The division is a little arbitrary, for it can hardly be contended that the period of greatest social progress in the nineteenth century fell in the fourteen years between the Reform Bill and the abolition of the Corn Laws. This, however, is doubtless a matter of convenience rather than of strict denotation, and the writers are frequently allowed to adopt limits of their own; thus, in the period just mentioned, six out of twenty-one sections range between other dates than those which are appropriated to the chapter as a whole. Mr. W. G. Rhodes, of the Salford Institute, notes the progress of physical studies from 1800 to 1846; Mr. R. E. Prothero takes a survey of agriculture between 1802 and 1832; whilst Dr. Sandys' excellent review of English scholarship goes back for a starting-point as far as 1742, and covers more than a hundred and twenty years. The fact is that any division whatsoever in the narration of history is pernicious in proportion as it is made effective; and, as there is no such thing as a wall of partition in the development of human affairs, there is no justification for an imaginary wall beyond the slender one of convenience. It would be difficult, indeed, to secure a better starting-point for an estimate of modern physical and intellectual progress than the year 1815, which brought to the whole of Europe (apart from the exploits of the Holy Alliance) an era of profound peace after a generation of desolating war, and to England in particular an era of strenuous retrenchment, when our army and navy were suddenly reduced to about one-sixth or one-seventh of their previous magnitude. But, on the other hand, we should have a poor and worthless conception of the later Georgian period of our history if we did not base it upon and find its interpretation in the decades which preceded it. It would be puerile to labour the point; yet it is important to remember that the tide of industrial colonization and emigration, of Indian Imperialism, of manufacturing development, of intellectual research, literary innovation, physical and humanitarian regeneration, flowed with ever-increasing strength and volume before the Napoleonic incubus had been shaken from the shoulders of Europe.

We cannot feel altogether satisfied by the attention paid to education, as distinct from the progress of knowledge and the account of English scholarship, in this closing volume of "Social England." Surely there are few more significant indications of progress in the nineteenth century than those which are afforded by the old and new Universities, by the University Colleges, the national system of primary education, the herculean labours of the Endowed Schools Commissioners, the movement on behalf of systematic technical education, the remarkable development of English private schools, the re-awakening of Wales, the rise of women's colleges and high schools, with much besides. Yet all that we find directly to the point on these subjects of transcendent importance is some fourteen pages on "Education in England, 1807–1885," nearly half of which is devoted to primary education, a page to women's education, seven lines to the University Colleges, and little over two pages to Oxford and Cambridge! If the editor extends his survey, towards the end of the century, to a seventh volume, he will be well advised to reinforce his "record of the progress of the people" in the matter of education.

The sections on the history of learning, and especially on the development of science, are far more adequate to the need, and some of them are excellent. Mr. T. Whittaker's reviews of biology and philosophy are all that could be desired. So are Mr. Farrer's section on Railways, Miss Bateson's on Social Life, Miss Morris' and Mr. Sparkes' on Decorative Art, and Dr. Traill's on Literature. With the somewhat notable exception to which attention has been called above, we have little but warm praise for this admirable volume, and for the six volumes in their entirety. They deserve a place in the library next to the great "Dictionary of Biography," to which they bear so close a relation, and which in more than a few respects they supplement or condense.

LUCUBRATIONS OF A PROFESSOR.

Thirty Years of Teaching. By L. C. Miall, F.R.S., Professor of Biology in the Yorkshire College. (Macmillan.)

"Any man who has practised a profession for thirty years ought to have gained an experience useful to his juniors." This is Professor Miall's "apology" for adding to the stock of popular works on education. By itself it is insufficient; otherwise heaven defend us "juniors" from the downpour of excellent advice which would rain on us from the practitioners of thirty years' standing.

But the Professor is not only experienced, he is very observant, very open-minded, and, what is rare among teachers, very little trammelled by tradition. The book consists of a number of papers contributed during the last few years to the *Journal of Education*; these are here and there supplemented by additional notes. The history of the book explains what, to the serious student of education, may appear to be its chief defect: it is loosely put together. There is no attempt to exhibit a coordinated set of principles. A paper on Reading Aloud is preceded by one on Lecturing and Teaching, and followed by a discussion of School Lessons in Drawing. The style of the book reminds us, in fact, of the chatty, desultory, brightly written lectures which were delivered at Cambridge by Mr. Arthur Sidgwick, and others, some years back. The Professor talks to you here just as, one may suppose, he talks to his colleagues at Leeds. And occasionally his style falls below the literary standard.

A style, however, which is unsuitable for the lecture-room may be all the more effective when addressed to a wider circle of readers: and the book before us is eminently adapted for the general reader, be he teacher or layman, who likes to think about education, but will not be bored with heavy discourse or pedagogy. There is a vein of quiet humour in most of the papers, which may be traced to the writer's enjoyment of children's society. "It has been my lot to be bored extensively by lectures, and to bore other people in return." Hence the motive of the book—to try and relieve a little the sufferings of that large portion of our race who is in the hands of teachers and professors. And the pleasure the reader finds in these pages is enhanced by the wide range of sympathy which is brought to bear upon the various topics—sympathy not only with children and their teachers, but

with the world outside the school. The dialogue with the dry-salter is not wholly successful, but it sets the reader on the right track, showing him the standpoint of people who have not been brought up in a scholastic environment.

So much for the style of the book. It is sure to be read through by most people who get hold of it, though the light and desultory form of its composition may possibly discount the real importance of its contents. For it is evident that the Professor, in spite of his fear (page 247) of "academical systems," has a very definite creed of his own with reference to most of the problems of the school. And this creed represents very fairly the newer ideas which are floating about in the minds of many teachers with reference to educational reform. Indeed, it may be fairly said that this lively book contains in simple form the gist of most of the reforms which are now fermenting in the more restless minds among us. Above all, the standpoint which the author does not defend, but tacitly assumes throughout his chapters, is very significant. He has broken away from the older theory of regarding education as a formal process of faculty training, and bases his methods almost wholly on personal observation of the child as a self-developing creature. "Suppose that at eight years of age the boy passes out of the preparatory school and begins book learning. Take a good look at him before you start, and notice his curly head, his 'shining morning face,' his restless hands and feet."

This is the standpoint of all the reformers; with some of them, such as Froebel and Pestalozzi, the writer has made acquaintance; of the Herbartians he appears to know nothing, and it is all the more interesting, therefore, to observe how his experiences support the plans which they advocate. The proposal (page 13) to employ the narratives of eye-witnesses as literature for history teaching has been carried out for years in some primary schools in Thüringen.

To teachers the most helpful, because the most practical, parts of the book are perhaps the chapters on "School Hours" and on "How to make Room for all the Subjects which are to be Taught in Schools." The burden of our day is the ever-increasing multiplicity of "subjects." Professor Miall is anxious, perhaps over-anxious, to be "practical," and he only advances proposals which he asserts have been tried with success.

If his proposals in these chapters fail to meet with the response which might be expected, the failure must perhaps be put down to one factor in the situation which he has neglected. The children whom Professor Miall has taught or has observed have surely been taught in small classes or schools, where new ideas can be readily adapted. But most children and teachers are members of a large body, and it is very difficult for the individual to work out a continuous plan of reform apart from the sympathy and co-operation of many colleagues. This factor, necessary and inevitable in our profession, is perhaps the main reason why proposals so widely approved in theory win their way so slowly in the practice of our schools.

But, whatever difficulties we may encounter in large schools in putting the new views into practice, we are confident that such books as this will act like leaven in the minds of many teachers, and that the result will be seen after many days.

Monumental.

The Dictionary of National Biography. Edited by Sidney Lee. Vols. L. and LI. Russen—Sheares. (Smith, Elder, & Co.)

Mr. Leslie Stephen, the originator and first editor of "this monumental work"—as everybody is naturally disposed to call it—said, at a recent banquet given by Mr. George Smith to the contributors, that the Dictionary was full of blunders. The expression certainly cannot be regarded as a piece of self-praise, and yet it is, as a matter of fact, tantamount to an encomium. When we mention the defects of one whom we love, or of whom we are proud, it is only out of the very fulness of our belief in his virtues. Mr. Stephen undoubtedly loves and is proud of the Dictionary, and to say that it contains an indefinite number of slips is merely to admit that a work of enormous detail has been produced under the inevitable conditions of fallible humanity, and to challenge criticism after admitting all the discoverable defects in twenty million words. Mr. Lee has given evidence of a similar frankness in case of need, and there is really nothing left for the critic but to acknowledge the extraordinary care and accuracy which are the main characteristics of this authoritative record. Amidst an enormous mass of facts, compressed and consolidated until every phrase has a significance of its own, it is but rarely that a reader finds anything worthy of complaint on subjects with which he has exceptional familiarity; and even then the slip or doubtful statement is less serious in its consequences by reason of the abundant citation of authorities, which enables any reader who is interested in the matter to refer directly to the first sources of information.

The fiftieth volume does not include many names of exceptional interest. The Rutherfords, Sackvilles, St. Johns, Savages, Savilles, add sundry worthies to the national roll, but none who could claim first or second rank. Sacheverell, Sala, and Leonard Schmitz, all of foreign origin, are notable for three very different reasons; and the life of Richard Savage, by Mr. Irving Carlyle, is a decidedly readable chapter of literary biography, which strips the unhappy poet of his boasted Macclesfield parentage, in spite of the ever learned but not always accurate Johnson. Dr. Stronach's two columns on Dr. Schmitz are a plain and adequate record of a sufficiently remarkable man, the pupil and translator of Niebuhr, the friend of Connop Thirlwall, and Grote, the one-armed scholar who wrote so many volumes and ruled so many boys with his left hand, the tutor of the Prince of Wales and the Duke of Edinburgh, the head of the International College at Isleworth, the translator of Zumpt, and the introducer of German scholarship to many hundreds of Englishmen.

The fifty-first volume is richer in great names than the fiftieth, for it contains all the Scots and Scotts, including twenty-four pages on Sir Walter, by Mr. Leslie Stephen, the Scropes, the Seldens, the Sedgwicks, the Selwyns, the Setons, the Sewells, the Seymours, the Sharps and Shaws, and the elaborate fifty pages on Shakespeare by Mr. Sidney Lee. Mr. Lee devotes thirty-seven pages to the actual biography of the dramatist, three to his portraits and memorials, two to his bibliography, and seven to his "reputation." The last of these sections is a particularly interesting chapter of historical literary criticism. Shakespeare was hailed from the first as a transcendent dramatist. Even Jonson, severe in his classical canons of art, ranked him with the tragedians of Greece. Milton hailed him as "the great heir of fame." The comparatively dull-witted Restoration period, which sacrificed essence to form, and took its measured models from the French, modified Shakespeare when it did not neglect him; and, though he had fully established his sway over broad and literary minds, and was recognized by every actor, and every man of dramatic instinct, as the one supreme master of the stage, he was destined to pass under more than one cloud of prejudice and depreciation. Many dogmatists of the eighteenth century, especially on the Continent, were clear for the superiority of Racine and Corneille; whilst Voltaire, who probably took little real trouble to understand him, held him very cheap. Lessing, in Germany, and Diderot, in France, knew better how to appreciate the genius of the Englishman, and they set the measure of a truer and more intelligent estimate. Germans, indeed, early in the present century, thought quite as much of Shakespeare as his own countrymen did. The later Georgians and early Victorians, who found themselves blushing over the Romantic revival, took their Elizabethans in sippets from Albums and Gems and books of Elegant Extracts, whilst the lessees of theatres found that the Bard of Avon, even when elaborately washed, and with his hair and nails trimmed, would not pay, and occasionally spelt ruin.

Sheriff Mackay gives a fair account of the great naturalist and contemporary of Roger Bacon—Michael Scott, or, as he would be more correctly called, Michael the Scot. Michael was a North Briton, an Oxford man, who pursued his studies at Paris, Bologna, Palermo, and Toledo, mastered Arabic, translated Aristotle, acquired the inevitable thirteenth-century reputation as a necromancer, and almost perished from memory in the Dark Ages. But he lived in legend, whilst his manuscripts gathered dust, and he has gradually been restored to his proper niche by the zeal of his countrymen. Mr. Mackay could not have written his article if he had not had access to the proof-sheets of Mr. J. Wood Brown's "Enquiry into the Life and Legend of Michael Scot (1175–1232)," published a few months ago, which supersedes all previous lives of this interesting schoolman. As the biography must have been written six or twelve months ago, we have here an illustration of the competence with which the Dictionary is edited and written.

Apriority.

An Essay on the Foundations of Geometry. By Bertrand A. W. Russell, M.A. (Cambridge University Press.)

This book discusses an extremely interesting but difficult subject. Its object is to prove that geometry rests on certain

fundamental and necessary axioms, and to discover what these axioms are. Such a discussion must be at depth a philosophical one; but philosophy alone is inadequate for the purpose. One of the merits of the book is that it treats the subject both mathematically and philosophically. We do not agree with all the conclusions arrived at, and shall have occasion to point out mistakes in the mathematical portion of the work; but the views expressed are such as to command attention, especially on points on which the author disagrees with previous writers. We will not attempt to give any connected idea of Mr. Russell's book as a whole, but merely select, more or less at hazard, what appear to be some of the most important points.

In his introduction the author explains the somewhat unusual sense in which the term *a priori* is used:—

> My test of apriority will be purely logical: Would experience be impossible if a certain axiom or postulate were denied? Or, in a more restricted sense, which gives apriority only within a particular science: Would experience as to the subject-matter of that science be impossible, without a certain axiom or postulate? My results also, therefore, will be purely logical.

The general object of the author is to investigate what is, in this sense, the *a priori* in abstract geometry. But he goes further than this, and contends that the axioms of projective geometry (which we shall consider later) are *a priori* for any *form of externality*, and therefore, in particular, necessarily true of any kind of space of which experience is possible.

The author does not formally define space. He regards space as a pure *form of externality*, as being nothing but relations, or rather as being the medium only by which the existence of relations between things (figures and material bodies) can be experienced; having no *thinghood*, no intrinsic property, no action; so that it cannot, for example, present any hindrance to absolute freedom of motion. In the last chapter, however, he practically relinquishes this position, and maintains that it is impossible, "if knowledge of any form of externality is to be freed from contradictions, to wholly abstract this knowledge from all reference to the matter contained in the form." It would have been better if this had been clearly postulated throughout.

It may be argued that this view of space, though common, is not a general, but an ideal and special, one; and that it is contradicted by one of the author's fundamental axioms, viz., that "Space has only a finite number of dimensions." If the statement had been that "space has an infinite number of dimensions," we should have had no objection to urge against this view. But space with only a finite number of dimensions has, *ipso facto*, an intrinsic property, and such space acts as a barrier to the freedom of motion. We think, therefore, that this axiom renders invalid the argument of the author as to the necessary homogeneity of space. Even freedom of motion, and the axiom of congruence on the principle of superposition, do not necessitate any actual homogeneity, but only an apparent or theoretical homogeneity. The supposition that space has infinite dimensions would not produce any change in descriptive geometry, or in surveying; nor would it affect the procedure of coordinate geometry; it would only prevent the application of the last to the whole space at once. To say that "geometry would become impossible" is absurd.

Projective or descriptive geometry is discussed in chapter i., and again in chapter iii. Its special feature is that, when properly explained, it dispenses with any notions of measurement and comparison of magnitudes. It deals only with qualitative likeness in figures; and so may be expected to disclose the *a priori* axioms of geometry, if such exist. The principal difficulty is in the notion of the point, when considered apart from magnitude. We may say that a point is in space, but contains no space; or a point is that which has no parts, *i.e.*, cannot be divided into two.

The following may be called the fundamental theorem of projective geometry:—

> If A, B, C, D be four given points on a straight line, and A', B', C' three given points on another (or the same), and if a fourth point D' can be found on $A'B'C'$ such that $ABCD$ and $A'B'C'D'$ are both in perspective with any third set of four points on a straight line, then the position of D' depends solely on the seven given points; *i.e.*, D' is a unique point on $A'B'C'$.

As this theorem is capable of mathematical proof by projective methods, with the help of certain axioms, we fail to understand why the author should apparently regard it as a theorem to be established by philosophical argument. The axioms used in the proof are the following:—

I. Space is continuous, and infinitely divisible into parts, different parts being distinguished only by the immediate fact that they lie outside one another. It is assumed, however, as the foundation for subsequent reasoning, that there is an ultimate result of division—the point—which is itself indivisible.

II. Any two points in general determine an unique figure, called a straight line, which is made up of a singly infinite continuous series of points. Exceptional pairs of points may possibly exist—such as, for example, a pair of antipodal points on the surface of a sphere—which do not determine a unique line (great circle).

III. Any three points, not on a straight line, determine a unique figure, called a plane.

IV. The straight line joining any non-exceptional pair of points in a plane lies wholly within the plane.

The author gives, in addition to these, the axiom of dimensions, which we have already referred to. Instead of IV., he states the axiom of homogeneity, that all parts of space are qualitatively similar. If these two axioms are equivalent, as we believe them to be, there is a distinct advantage in retaining the older and more elementary form as above, since this is the form in which the axiom is directly applied in all proofs by projective methods.

The interesting theory of curvature as applied to space is discussed in chapter i. The conception of the curvature of a surface at any point is due to Gauss, who defined it for a surface in Euclidean space. We need not stop to consider how this curvature is measured, but proceed at once to explain some of its properties. Gauss proved that, no matter how a surface might be bent, provided it underwent no contraction or stretching, the curvature at any point would remain unaltered. Now, mere bending of a surface does not alter the magnitudes of angles or the lengths of lines, and therefore leaves the geometry of the surface the same as before. Hence the geometry of a surface is intimately connected with the curvature, and, in fact, Gauss's theorem shows that it may be regarded as depending solely on the variation of the curvature from point to point.

A plane has zero curvature at any point, and one result of Gauss's theorem is that any surface which can be developed on a plane—*i.e.*, spread on a plane by mere bending—has zero curvature at every point. The author, however, makes an absolutely incorrect statement when he says (page 18): "On any surface on which straight lines can be drawn the measure of curvature is everywhere zero." On such a surface in general consecutive generators do not intersect, and, this being the case, the surface cannot be developed on a plane, and its curvature is not zero, but negative.

The results obtained by Gauss were purely analytical, and depended essentially on the supposition that a metrical coordinate system is provided. They have, however, been commonly understood to prove that it might be possible to discover the geometry of a surface of variable curvature from within, *i.e.*, independently of any knowledge of a higher space which contained the surface. "But," the author says (page 19), "at this point a caution is necessary. It will appear, in chapter iii., that it is logically impossible to set up a precise coordinate system in which the coordinates represent spatial magnitudes, without the axiom of free mobility; and this axiom, as we have just seen, holds on surfaces only when the measure of curvature is constant." Hence the curvature, if variable, cannot be found from within, because the coordinate system by which to measure it cannot be found. This seems the only reasonable view to take; and those who disagree with it should disprove it. The only basis that has ever been suggested for any system of metrical geometry is the principle of measurement by superposition; and this method compels us to regard space as apparently homogeneous. The natural inference is that in space which has no apparent homogeneity it would be impossible to set up any metrical coordinate system.

We should have been glad if the author had something to say about those spaces of the Euclidean type, but of finite extent, which have been suggested by Klein. But we have said enough to show that Mr. Russell's book is full of interest and suggestion, and that it raises many points which claim the close attention of the mathematical reader.

Needlework.

Manual of Needlework and Cutting Out, specially adapted for Teachers of Sewing, Students, and Pupil-Teachers. By Agnes Walker, L.L.A. (Blackie & Son.)

A special feature of Miss Walker's manual is the excellence of the illustrations, which deserve great praise for their clearness

and abundance. Attention is prominently drawn to the necessity for having proper apparatus—such as the demonstration frame, the patent Paragon apparatus, the Stockwell frame and chequered cutting-out board, which, it is to be feared, a large number of teachers of this subject never dream of using, even when the largeness of their classes would amply justify the use of such aids. Even a reviewer, after consulting the introduction, can quite readily grasp that P.P.A. refers to the patent Paragon apparatus, that B.B. is blackboard, that "wire" is Scotch for a knitting-needle, and D.F. is a demonstration frame. The needle-work drill for infants is suitable, and we agree with Miss Walker that the habits of prompt obedience, accuracy, precision, and attention to details can be cultivated as easily by its means as by drill of other kinds. Hemming, seaming, stitching, herring-boning, button-holing, eyelet-holes, joining of cotton, hem-folding, and many other sewing mysteries are adequately explained, so that a young teacher could not fail to get hints as to how the information should be conveyed to a class clearly and concisely.

Perhaps a little too much space is given to knitting, stocking-web darning, and Swiss darning, in a manual intended for the instruction of an elementary school child. The writer lays stress upon the purchase of needles and cotton of good quality. We should have liked to see more stress laid on good material, the only kind worthy of hand-sewing. It is not half sufficiently inculcated in our elementary schools that a poor quality is folly. And is not stocking-web darning a little unnecessary in view of the quality of stockings purchased by the working classes? New combined garments seem to be treated as still exceptional in Miss Walker's book; old-fashioned ones have too much prominence in her excellent list of cutting-out diagrams. And might one ask why a teacher of teachers, as Miss Walker professes to be, does not take such an opportunity as her book affords of instilling into the feminine mind that it is not clean, not hygienic, nor in accordance with the climatic conditions of Britain, for a child or woman to wear a low-necked chemise or a low-necked bodice? Women who think on these subjects have long since followed men's example, and dress to the throat; and this lesson is just as much needed by working-class girls as a great many unrelated facts they learn at school. Has Miss Walker not reflected on the subject? It seems as if the time past should suffice for women tamely imitating what other women have done before them, without reflection or reason of any kind. For many years manufacturers have been making woven garments to the throat; and for many decades of years we may expect the teachers of sewing in elementary schools not to know this, and to reproduce the senseless garments of the early Victorian era.

ORBIS ANTIQUUS.

"Cambridge Geographical Series," edited by Dr. Guillemard.—*A History of Ancient Geography*, by H. F. Tozer, M.A. (Cambridge University Press.)

It is in the natural order of things that an academic series of geographical handbooks should include a volume on Ancient Geography. Accordingly, Dr. Guillemard, who edits the Cambridge Geographies, has borrowed Mr. Tozer from Oxford; and Mr. Tozer has prepared a *consommé* from Sir E. H. Bunbury's "History of Ancient Geography," with five of his maps, slightly altered. The work is well enough done. Mr. Tozer hopes to rouse the interest of other than classical readers in his subject, "an interest which it deserves an account of the variety of the questions with which it deals, and its direct connexion with the study of modern geography." There is considerably less "variety of questions" in the ancient geography, and its "direct connexion" with the modern science is little else than a precedence in point of time. Mr. Tozer's reasons are not convincing; but there can be no doubt as to the genuine interest of the subject. The history of geography from its earliest written records, from the indications of Homer and Herodotus, from the first formal survey or "periodos" of Hekatæus, to Strabo and Ptolemy, is unmistakably attractive. It is curious, for instance, to read of the wall-map of Agrippa, of the convention of the zones (Mr. Tozer calls it a "theory") which was taught by Parmenides; of the influence of the moon in causing the tides, as observed by Pytheas, who also devised parallels of latitude; of the meridians of Eratosthenes; of the theory of delta formations propounded by Hekatæus, who, on various grounds, deserves his title of "the father of geography"; of Ptolemy's account of the sources of the Nile, which certainly appears to indicate Lakes Victoria and Albert Nyanza, and Mounts Kilimanjaro and Kenia, and so forth. This volume, in brief, is a very serviceable compilation, though one would have preferred to find it standing alone as a text-book of ancient geography, rather than intervening in a series of contributions to recent geographical science.

SHORT NOTICES.

MATHEMATICS.

(1) *First Stage Mechanics of Fluids.* By G. H. Bryan, Sc.D., F.R.S., and F. Rosenberg, M.A. (Clive.) (2) *Elementary Algebra.* (Blackwood & Sons.) (3) *The Gateway of Wisdom: Euclid, Book I.* By William Larking, B.A. (Murby.) (4) *Oxford Questions in Arithmetic and Algebra.* Enlarged Edition. With Answers by the Rev. C. A. Marcon, M.A. (Oxford: Blackwell.) (5) *The Empire Arithmetic, Scheme B.* Parts III. and IV. By J. W. Jarvis. (Jarrold & Sons.)

(1) The first nine chapters of Dr. Bryan's "Mechanics" are introductory to the subject proper, and deal with the principles of mechanics generally. These are necessarily very condensed, and it is even doubtful whether they are absolutely required, but they form an extremely clear and useful summary. The hydrostatical principles in the remaining fourteen chapters are clearly explained, and, as is natural in an elementary treatment of the subject, are proved, for the most part, experimentally. On the whole, the book seems to be excellently adapted to its purpose, and to cover just the right amount of ground.

(2) This is a small book, but it has a considerable range, as it includes the progressions, binomial theorem, logarithms, and interest. The plan adopted is rather to appeal to the instinct of the learner to accept the rules laid down than to supply rigorous proofs. This method may be useful in teaching beginners, but its employment should be left to the teacher, and not embodied in a text-book. Notwithstanding this prevailing fault, the book is skilfully written, and contains an abundance of all varieties of questions. No answers are supplied at the end, and no indication is given that they can be purchased separately.

(3) Mr. Larking's little book is intended for beginners and those who have not succeeded with the common text-books. That it has been found useful seems to be proved by the fact that it has reached a second edition. The definitions and propositions are given in the orthodox manner, while the difficulties of the subject are explained in the form of a familiar dialogue. These explanations are, in most instances, excellent and full, and the method is well calculated to make the subject easy and interesting.

(4) Mr. Marcon has brought up to date a small volume of Matriculation and Responsions papers, with answers, published six or seven years ago. It is a handy collection, but it would have been much more serviceable if the bare results had been supplemented by the working out of a few score of typical problems.

(5) These consist of arithmetical exercises based on the Alternative Syllabus of the Code of the Education Department, each part covering the work of a standard. The parts are issued in paper covers at 2d. each, and in cloth at 3d.

FRENCH.

(1) *The Study of French according to the Best and Newest Systems.* By Alf. F. Eugène and H. E. Duriaux. (Macmillan.) (2) *French without Tears*, Book III. By Mrs. Hugh Bell. (Edward Arnold.) (3) *Les Femmes Savantes.* Edited by Alcée Fortier, D.Lit. (Isbister.) (4) *French Conversations with the Examiner.* By Curt Abel-Musgrave. (Swan Sonnenschein.) (5) *Graduated Course of Translation into French Prose.* By Prof. Victor Spiers, M.A. (Simpkin, Marshall & Co.) (6) "Modern French Series." *Les Deux Sœurs.* Edited by A. Delacourt, B. ès L. (Rivington, Percival, & Co.)

(1) "A living language should be learned in a living manner; that is to say, by *hearing* and *speaking*, rather than by *reading* and *writing*," say the authors in their advice to teachers. We fully endorse this maxim, which, by the bye, is not quite new. Yet it cannot be denied that reading and writing have their value, and are not to be wholly despised. A living language that one has to learn at school cannot exactly be compared with one's mother tongue: and the advocates of the "New Method," as it is somewhat pleasantly called, seem to us to be carried away by their enthusiasm. But the space at our disposal forbids our going deeper into this subject, on the main points of which we may say, however, that we are at one with the authors. The book before us seems, at all points, to be an advance on similar books previously published—more complete, more varied, more interesting, more in keeping, in its general outline and treatment, with the requirements of the class-room, the equipment to be furnished to the pupil. It is Gouin's system, more systematically suited to the learner of a foreign tongue in a foreign school. The subjects are practical, varied, and well graduated, embracing as they do all that may well come in one's way in general conversation. Certainly the study of French,

with such a book, can never be tedious to the pupils, unless indeed the teachers make it so. For, as the authors rightly point out, the function of the latter will be no sinecure; and the best method may prove a failure if entrusted to inexperienced teachers. The book is sound in principle, and we are of opinion that, if the book be given a fair trial, the results may repay the trouble and time spent over it. We will add that it is thoroughly well got up, and free from errors.

(2) "French without Tears"! Indeed, it may be so, for we have not perused the book without a good deal of merriment. Holding, as we do, that the primary quality of a French reader is that it should be written in good French—that is, free from errors, both of grammar and style—we are bound to say that this primary condition is lacking in "French without Tears." That a pupil may learn something out of it, especially so far as vocabulary is concerned, is possible; but we would not wish him to learn much more. The author would do well to have the book thoroughly revised, text and notes, by a competent person.

(3) Barring a notice on Molière, his life and his works, and an outline of the plots of "Les Précieuses Ridicules," and "Les Femmes Savantes," we can see in this edition of the latter comedy nothing that justifies a new edition of the play. The text is well printed and free from errors.

(4) Mr. Abel-Musgrave's "French Conversation" is very well adapted for its purpose, which is to prepare Army and Navy candidates (in particular) for their interviews with the examiner. The dialogue is brisk and amusing; daily practice in this sort of thing could scarcely fail to send up a candidate in a confident and passable mood.

(5) Professor Spiers has made a good selection of graduated passages for translation into French. There are a hundred and forty-four pieces, some of them being versions from the French and some chosen from English authors. We should have preferred less affidavit in the preface to the merits of the collection, and the advertisements of the author's previous works ought not to have been interpolated in the text. The professor's English is not absolutely irreproachable; but the book is serviceable.

(6) M. Delacourt's text is an adaptation of a simple and attractive folk-story from the Roumanian of Mdlle. Geraldine Rolland. It is a good elementary reading book, with the difficulties partially graduated—though there are some forbidding long words at the very beginning. The vocabulary is excellent in idea and arrangement.

GERMAN.

(1) "Heath's Modern Language Series." *Goethe's Iphigenie auf Tauris.* Edited by L. A. Rhoades, Ph.D. (Isbister.) (2) *A Second German Course.* Readings in German, &c. By H. Baumann, M.A. Lond. (Blackie & Son.) (3) *Elementary German Grammar.* By Carl Drews and G. G. Newman, B.A. (Adelaide: W. K. Thomas & Co.) (4) *German Stories.* Edited, with Notes, Exercises, and Vocabulary, by L. de Saumarez Brock. (Blackie & Son.)

(1) Classical scholars have often given vent to their well-founded grievance that so many ill-qualified persons dabble in editing and annotating classical works and exploit the labours of their predecessors. If fellow-suffering can alleviate in some degree, indirectly at least, their discomfort or irritation, the classical scholars may console themselves with the fact that the modern classics, as a rule, do not fare better than the ancient classics. Since it has become the fashion to annotate French and German classics the number of commentaries on them has alarmingly increased. Of these, a few only are based upon original research, sound knowledge, and critical judgment. Professor Rhoades evidently lacks the qualities essential for an editor of a poetical work with a classical basis. How little he understands the import of Goethe's noble drama may be seen from his statement in the preface "that it does not afford a field for character analysis, as is the case in Schiller or Shakespeare." It is almost universally admitted that every character in Goethe's "Iphigenie" stands out in bold relief, and yet Professor Rhoades boldly declares that there is no room for "character analysis"! Equally inaccurate, but only more absurd, is the statement that "Goethe's poem is pre-eminently a Christian poem." It is simply the dramatic embodiment of the most noble impulses in man, and belongs, as such, to all ages, nations, and creeds. And such a view is expressed in an edition which is launched forth as "representing the present condition and standards of Goethe's studies" (*sic!*). We have, however, dwelt already too long on this unsatisfactory production, in reference to which we might apply the old dictum, "The good in it is not new, and the new is not original."

(2) Mr. H. Baumann, the accomplished author of "Londonismen," has issued a "Second German Course," which is very carefully and systematically worked out. The passages for translation into German have been constructed from materials supplied by the corresponding prose readings in German. Two useful vocabularies are appended to the book.

(3) The "Elementary German Grammar" by Messrs. Drews and Newman is a handy and neatly-printed little book. It is intended, like the above-mentioned edition of Goethe's "Iphigenie," to supply a "long-felt want," but unfortunately the manual is not adapted to the new and generally accepted system of German grammar.

(4) We cannot say much in favour of the "German Stories" by L. de Saumarez Brock. The stories are not systematically arranged, and contain some very hackneyed anecdotes. On page 2 we meet with the antediluvian "Seven Sticks," and on page 20 we find Lessing's splendid epic tale, "Die drei Ringe." The notes are so meagre that they might well have been relegated to the vocabulary.

TEXTS WITH NOTES.

(1, 2) "Arnold's School Shakespeare." Edited by J. Churton Collins, M.A.—*The Life and Death of King John.* With Introduction and Notes by Francis Pierrepont Barnard, M.A. *Coriolanus.* With Introduction and Notes by R. F. Cholmeley, M.A. (Arnold.) (3) "The College Classics Series of Shakespeare's Plays." Edited by F. W. Kellett, M.A.—*The Life and Death of King John.* With Introduction and Notes by Mark Hunter, M.A. (Madras: Srinivasa, Varadachari, & Co.) (4) Milton's *Samson Agonistes.* Edited by Edmund K. Chambers. (Blackie & Son.) (5) "Blackie's Junior School Milton."—*Paradise Lost, Book II.* Edited by F. Gorse, M.A. (Blackie & Son.) (6) Wordsworth's *Excursion, Book I.* Edited by M. T. Quinn, M.A. (Bell & Son.) (7) "Arnold's British Classics for Schools." Edited by J. Churton Collins.—Macaulay's *Lays of Ancient Rome, &c.* Edited by R. L. A. Du Pontet, B.A. (Arnold.) (8) Carlyle's *Hero as Man of Letters.* Edited by Mark Hunter, M.A. (Bell & Son.) (9) "Moffatt's Plays of Shakespeare."—*A Midsummer Night's Dream.* With Introduction and Notes by Thomas Page. (Moffatt & Paige.)

(1, 2) Fourteen plays have been completed in the School Shakespeare edited by Mr. Churton Collins, and we have thus ample materials for the formation of a judgment as to what is likely to be the definitive character of the edition. There is no question that the editors of the several plays are admirably carrying out the original plan of the series, and producing volumes precisely calculated "for the use of students who are encouraged to study Shakespeare liberally; rather, that is to say, from a literary and historical point of view than from the grammatical and philological side." The consequence is that the introductions to some of the plays are overladen with details on the date of production and the sources and analysis of the plot, which can hardly ever be of immediate service to a schoolboy. This superfluity is very noticeable in Mr. Barnard's *King John*, the introduction to which is (naturally) twice as long as that of Mr. Cholmeley to *Coriolanus.* No doubt the volumes contain all that is necessary for students "in an ordinary Shakespeare examination" for schoolboys, but it will be sometimes advisable to mark with a pencil beforehand the passages which may be safely omitted by candidates for a junior or second-class certificate. If we regarded these volumes as text-books for the highest forms, or for college students, to be supplemented by oral preparation, we should have less reservation in commending them as all that could be desired. As scholarly editions on liberal and literary lines, they are excellent in every way.

(3) "King John" is the latest addition to Mr. Kellett's well-known series of "College Classics," which has, perhaps, a greater vogue in India than in England, though it has been favourably received in this country. Mr. Hunter's work is quite adequate.

(4) "Samson Agonistes" is dramatic in idea and form, lofty and classical in language. So far as serious study is concerned, an English boy or girl is never doing amiss when poring over Milton. Mr. Chambers has edited the "Samson" in this spirit, and, after careful consideration, we can commend it as an excellent school book.

(5) Mr. Gorse's text-book is workmanlike and simple—not overladen, but amply furnished with aids for the junior forms.

(6) Mr. Quinn's edition of the first book of the "Excursion"—we fear it is a dull and melancholy selection of a text—is a good one.

(7) Mr. Du Pontet is one of the later recruits from the ancient Universities to the ever-increasing host of school-text editors. His little volume of the poems of Macaulay is very serviceable, appreciative, and scholarly. His introduction and notes are all that the young student needs, and his authorities for the various poems, with the references and classical illustrations in the notes, are very valuable.

(8) The baggage of Mr. Hunter's edition of "The Hero as Man of Letters" is bulky, and not all of it is indispensable. The notes will be very interesting to a student capable of appreciating Carlyle, but the introduction is too long.

(9) Mr. Page's treatment of Shakespeare is convenient and helpful. His copious notes occupy the larger portion of the book. We commend the ample selection which the editor has made from former critics of the "Midsummer Night's Dream." As a literary edition of the play this is an exceptionally good one.

MISCELLANEOUS.

Oxford and Its Colleges. By J. Wells, M.A. Illustrated by Edmund H. New. (Methuen.)

This is a neat, pocketable history of the Oxford colleges, which also in many respects will serve the purpose of a visitors' guide to the University. The book is brightly written and very attractively illustrated, it is provided with plans and an index, and the story of the colleges and other buildings is brought down to the most recent date.

Preparatory Questions on S. R. Gardiner's "Student's History of England." By R. Somervell, M.A. (Longmans.)

Here we have an excellent book of questions, which, in the hands of a judicious teacher, will be found extremely serviceable. A *questionnaire* may be put to various uses, and Mr. Somervell's tests—all well digested, as examination tests ought invariably to be—are valuable, apart from the volume on which they are actually based. Of course they could not all be indiscriminately used as they stand, but a discerning young examiner would find many a good question suggested to his mind by this little book.

Athalie. By Jean Racine. Translated into English Verse by W. P. Thompson, F.C.S. (Hachette.)

We are not quite sure as to the intention of Mr. Thompson's volume of verse. It is well and amiably meant, and we have no doubt that the numerous railway journeys between Liverpool and London of which Mr. Thompson speaks were rendered more pleasant to himself by his self-imposed task of turning Racine into English anapæsts. Parts of the version are smooth enough, but as it cannot be read as English poetry, nor used for teaching French or English, it is a little difficult to find a niche for it.

The Professor's Children. By Edith Henrietta Fowler. (Longmans.)

Miss Fowler's delightful book about the four motherless children of the professor is daintily illustrated by four and twenty pictures by Ethel Kate Burgess. It is an attractive chapter of child-psychology, though evidently Miss Fowler did not intend it to be anything so alarming as a study in psychology. She meant it for a perfectly simple and natural narrative of nursery talk and infantine ideas. So it is, and that is why we commend it as very good reading for children and psychologists.

The Craftsman. By Rowland Grey. (Ward, Lock, & Co.)

Rowland Grey is a pleasant and refined story-teller. "The Craftsman" is not a tale for children, and perhaps not intended specially for young readers, but there is not a line in it with which a young reader could not thoroughly sympathize. It is a story of literary ambition and generous friendship, of honest effort and success. The hero writes a play which does not succeed; the heroine believes in him and helps him to believe in himself, and his next venture has a very different reception. The story encourages perseverance and independent work; it is told in a wholesome and straightforward style, and may be warmly recommended.

The King of the Mountains. Translated from the French of Edmond About by Richard Davey. With Introduction by Andrew Lang. (Heinemann.)

We should scarcely have thought that About's romance of Greek brigands, well known as it is in this country, was worth translating all over again. As a romance it is burlesque; as a record it is a Frenchman's witty exaggeration of a condition of things long passed away. Englishmen had reason to be sore on the subject of Greek brigands up to the Marathon massacre, but not after that time. Mr. Lang's introduction, however, puts the whole matter very fairly, and will correct any false impressions which might be received by a young reader of to-day on reading About unexplained. The Scottish Highlanders were brigands in the last century, and English highwaymen have not been very long extinct. "Greece was not abnormal," says Mr. Lang; "she was belated—that was all."

We have received the following publications:—

Record of Technical and Secondary Education (July, 1897).

A Short Spelling Manual for the Use of Preparatory Schools, compiled by W. W. Cheriton (Rivington, Percival, & Co.)—well classified, clear, and handy.

A Short Synopsis of English History, by J. C. Wright (Relfe Brothers)—compendious.

The Science of Speech, by A. M. Bell (Washington: The Volta Bureau)—an ingenious discussion of articulate sounds, with new nomenclature; a little too dogmatic.

McDougall's "Index" Series of Drawing Cards: Geometry for Standard VII. (McDougall)—clear copies with problems, handy for use.

Register of Examination Results, by James M'Cubbin, B.A. Lond. (Bell & Sons)—a conveniently ruled and very comprehensive mark-book, folio, affording a clear synoptical view of work done.

LITERARY GOSSIP.

Messrs. Longmans are publishing a volume by Sir Joshua Fitch on Thomas and Matthew Arnold, with the latter of whom Sir Joshua was for many years in close association. We welcome this amongst other recent tokens that increased attention is being paid by English writers to English authorities in education.

Mr. J. H. Rose, M.A., has undertaken to edit for Messrs. Blackie & Son a "Victorian Era Series," dealing in separate volumes with the great national movements of the century. Mr. H. Holman is to undertake the volume on "National Education," but it is to be hoped that the vast developments of secondary and higher education, which are not in the ordinary sense "national," will be kept distinct from the treatment of education which is State-aided and State-controlled.

The University of Glasgow is about to complete its printed roll of graduates, from the foundation of the University in 1450 to the close of last year. The total number of graduates will, we believe, exceed twenty thousand.

The University of Cambridge, on behalf of the Pitt Press, applied in Chancery a few days ago for an injunction in respect of the alleged infringement of copyright by a London firm of publishers in certain annotated editions of Pope's "Essay on Criticism" and Milton's "Lycidas," "Allegro," and "Il Penseroso," the copyright claimed by the plaintiffs being in the notes only. The defendants were the owners of editions of the same works. Counsel for the plaintiffs said that it had been agreed between the parties that, upon the defendants undertaking to keep an account of all books sold by them, and to file affidavits and deliver copies of exhibits within the first seven days of October, the motion should stand over to the first motion day of the Michaelmas sittings. This is a question of considerable interest for schoolmasters, but, as the case is *sub judice*, we must for the present abstain from further comment.

Two years ago Aberdeen University conferred the degree of LL.D. on Miss Jane Harrison, the well-known Greek scholar, and the University of St. Andrews has just conferred a similar honour on Miss Eugenie Sellers, who, like Miss Harrison, is an authority on Greek sculpture. Her latest and most important work is an introduction to and commentary on Pliny's "Natural History."

We have received the twenty-first part of the excellent new French dictionary by MM. Hatzfeld, Darmesteter, and Thomas, completing the letter "N" and beginning the letter "P." The treatment of the words is historical from the end of the sixteenth century.

The first volume of an American History is about to be published by Messrs. Macmillan & Co. Professor Albert Bushnel Hart, of Harvard University, is the editor of the work, which is built up by an arrangement of extracts from the records of contemporary historians. Thus the first volume, comprising the Era of Colonization (1492–1689), includes extracts from the writings of Columbus, Miles Philips, Richard Hakluyt, Sir John Hawkins, Sir Francis Drake, Sir Walter Raleigh, of historic fame, and other authors. Professor York Powell some years ago dealt with English history on a similar plan.

ADJOURNED MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

An adjourned meeting of the Council was held at the College on the 24th July. Present: Mr. Bidlake (in the chair), Rev. J. O. Bevan, Mr. Brown, Mr. Charles, Mr. Chettle, Dr. Dillon, Mr. Eve, Mr. Harris, Mr. Leetham, Mr. Montgomery, Mr. Pinches, Rev. W. J. Savell, Mr. Storr, and Dr. Wormell.

Diplomas were awarded to the following, who had completed their subjects at the Midsummer Examination of Teachers for Diplomas:—*Licentiateship:* Miss H. Ashby, Miss E. A. Dennison, A. E. Dunstan, J. B. Eddon, A. Paterson, W. R. Yardley; *Associateship:* A. T. Bailey, J. Benbow, Miss K. S. Block, F. Canterbury, R. Clark, C. F. Collingwood, H. Davis, E. Garnett, G. W. Gentleman, W. Hatfield, Miss A. M. Hay, G. S. Haycock, S. A. Hildage, J. Hill, H. Hone, D. C. James, Miss H. M. Johnson, P. H. Johnson, Miss S. A. Kendrick, Miss L. Lee, Miss A. M. Macnab, Miss A. B. May, Miss M. A. McEwen E. V. Mellon, G. Munro, R. H. Newlands, Miss E. E. Pegg, Miss E. G. Pickard, G. J. Randell, M. Rees, J. E. Rider, D. J. Saer, Miss A. M. Sayer, T. Strickson, Miss M. A. E. Swann, Miss G. A. Tann, W. M. Taylor, H. Tilbury, T. A. Turton, C. E. Ullyett, Miss F. Whelpton-Johnson, G. A. Woodcock.

The Prize of £5 for Natural Sciences was awarded to Mr. A. E. Dunstan.

The Scheme for a Joint Agency Committee was modified in important particulars, and approved as amended.

It was decided that it would not be advisable to take any action with regard to the *précis* of a Scheme for the Organization of Secondary Education drawn up by the Headmasters' Association, as the matter was now under consideration of the Joint Committee for Promoting Legislation for Secondary Education

CORRESPONDENCE.

THE DIVORCE OF HISTORY TEACHING FROM LIFE.

To the Editor of the Educational Times.

SIR,—We are all acquainted with the salutary effects of a severe shock in certain cases of lethargy and stupor. Sir R. K. Wilson, in the character of the wise physician, has been diagnosing the history teachers of this country, and has administered such a shock. He has calmly suggested that we should cast traditions and precedent to the winds, leave the ancient Britons to their woad, and teach history backwards, beginning with the constitution of the London County Council, including, I suppose, the case for and against the existence of the Works Department.

It is difficult to be sufficiently grateful to Sir Ronald for his services in rousing us to the gravity of our condition, especially if his action leads to a stirring of new life in the valley of historical dry bones. And it is plain that we are waking up, for, though Mr. Malden, in his recent paper, denies the feasibility of starting from the London County Council and working back to Julius Cæsar, he admits grave faults in our present methods, and joins Sir Ronald in condemning the general neglect of recent history. Every one who has been engaged in any kind of teaching must have felt the necessity of getting away periodically from the inside details of the work and viewing it as a whole from the outside. Unless this is done, it is impossible to maintain that stream of freshness which is absolutely essential if teaching is to be kept from relapsing into a dreary and mechanical routine. Few people, I suppose, would deny in theory that education is meant to be a preparation for life; but in practice, from a variety of reasons, this principle is not always carried out.

This is the case, notably, I think, with regard to history teaching, which, though it is beset with all sorts of difficulties, is yet rich in educational possibilities in the hands of an enthusiastic and skilful teacher. It offers almost infinite scope for training the imagination, observation, and judgment, and it ought to serve as the starting point of an intelligent interest in the social and political life of the present day. The first requisite of a history teacher is that he should make his class feel that history is not a mere *lesson*, but a bit of life, that it is going on now, and that we are all concerned in it, and that it is possible for the apathy and ignorance of English citizens to alter the course of future history for evil.

The study of history ought to develop the social consciousness, and to train and enlighten the social conscience, of those who study it—it ought to *begin* to do this at school. But it will not serve this purpose unless more pains are taken to emphasise the social life of the people at different epochs, and to connect the past with the present at every point in the progress of the centuries. If natural science is used to give an intelligent understanding of the world of nature, so the study of history ought surely to give some insight into the world of men living in social and political relationships.

But, I think, it must be admitted that few boys leave school with any very clear notion of the practical bearing of what they have learnt there in the hours devoted to English history. History has probably meant to most of them a certain lesson, given at a certain hour, by a certain teacher, and studied from a certain book or a number of books. It is in the past, and it is dead, and if any thought of the present enters their heads in this connexion, it is probably because of a vague thankfulness that the reign of Queen Victoria is not added to their historical burdens, being not yet *dead* enough for treatment in school. Even where English history is studied as a special and advanced subject, as it is for the Cambridge Higher Local Examinations in the case of girls, present-day history receives only scanty attention, and *social* history proper plays a very small part.

I know from personal experience how little knowledge of nineteenth-century history is requisite for a second class in "Group H," and how sorely dismayed most of the candidates would be if they were asked to show the practical bearing of their historical knowledge in connexion with contemporary events. I had books full of notes on constitutional history, but I had not the vaguest conception of the real significance of the Reform Bill of 1832, nor of the parliamentary and electoral conditions which made that Bill possible. Probably, however, this is an extreme case. The Industrial Revolution at the end of last century was not even a name to me, and, if I had been asked to compare our present method of dealing with the poor with that in use during the reign of Henry VI. or James I., I should certainly have left the question unanswered. Indeed, if these matters had been brought into the paper, I am sure it would have been resented by many teachers. That kind of knowledge was neither expected nor acquired, and yet surely it ought to be expected, and will be in the future, even at the expense of an elaborate and detailed knowledge of the position of the opposing armies on every battlefield on which English soldiers have fought.

Nor is it to be expected that many teachers will change their method of teaching until examiners demand a more real and living knowledge: they must "get their pupils through" in a certain kind of examination, and there is no time to spend in treating subjects which are not profitable in the examinations, however desirable they may be from the point of view of citizenship and life. For the kind of teaching which I have in my mind makes heavy demands upon the teacher, and it will take some time for him to adjust himself to the new point of view. Book knowledge alone will certainly not serve him; he must be keenly alive to all that is going on at the moment in the social and political life of the world outside the school-room walls, and must be able to use current events by way of illustration or commentary in his daily or weekly lesson to his pupils. Principals will then advertise vacancies somewhat in this fashion:—"Wanted a lively history teacher for a public school; none but newspaper readers need apply." The newspaper, I think, might be made to play an important part in history teaching. In point of fact, it is the history book of the present, and should be regarded by the more advanced pupils as part of the historical material on which they can draw for their supply of information. The younger pupils can scarcely be allowed to use this text-book, but the teacher must always be familiar with the signs of the times, and should never lose an opportunity of using present facts to interpret or exemplify general historical principles. It will probably be urged that this kind of history teaching is dangerous, and will turn a quiet and seemly lesson into a noisy political meeting. In fact, it will be just a little too interesting. It is certainly not desirable to turn out political partisans, and the teacher will have to make it very clear that this is not his aim—rather is it to train students of politics and social life. His attitude must be something like that of the permanent Government official, whose work goes on irrespective of parties and the changes in Cabinet, although, being an intelligent human being, he must, I suppose, have certain opinions concealed within his breast. With an impartial teacher much may be done actually to lessen blind partisanship in later life, because the class will always be required to weigh arguments and examine evidence, and will find its main work not so much in the formation of definite opinions on controversial matters as in building up a basis of facts on which later opinion may be grounded.

As far as I know, very little use has been made hitherto of local records to illustrate general history, yet these are most valuable as a means of making history a real and vital thing. I think every teacher should make himself familiar with the history of the town or county district where he happens to be teaching, and should keep himself informed on matters of public interest in the locality. He will probably find the former an irksome task at first, as local histories are often badly arranged and worse written, and show very little knowledge of the relation of the particular facts they chronicle to the general course of events. There are, of course, exceptions, such as the "Historic Towns Series," which are written by experts. But, in spite of literary drawbacks, the local history will probably be found to possess a very considerable interest in the light of general history, and the trouble of research will be amply repaid by the added interest and significance of the history lessons. For example, when dealing with the reign of William I., it will interest the children to know how their particular town fared, whether the inhabitants were submissive to his iron rule, or were among those who, like the gallant Hereward, held out stanchly against William the Conqueror.

History is apt to become a matter of phrases and symbols, but this may be largely prevented by the use of concrete illustrations from the history of the locality. The feudal system, for example, is such a phrase, which, to many children, bears no meaning at all unless it is represented in their minds by that familiar chalk triangle drawn on the blackboard, in which the apex represents the king at the head of the nation, while the base serves to mark the position of the serfs in the social scale. But it becomes a real thing at once to Manchester children, let us say, when they are told that Manchester was one of the innumerable manors into which England was divided in Norman times, and that a man named Nigel was lord of all the villagers living in the rude cottages along the straggling street near the spot where the cathedral now stands. By this means, life in a manorial village under the feudal system becomes something which they can picture to themselves, and, instead of a vague symbol, you will have left them with a vivid impression of reality.

One might multiply illustrations all along the line of general history, but it is scarcely necessary to do so. The principle remains the same in every case.

Finally, when the pupils have got a fairly complete outline of the main course of social and political life up to the present time, the way would, I think, be clear for a course of simple lessons in historic evolution, which should show the development of English institutions from their beginnings until now, or trace the history of the different parts of our social system.

Here are several possible subjects for such a series:—The Development of the English Poor Law; The History of Town Life in England; The History of Landownership in England; History of the English Parliament; &c., &c. These and many other matters will readily suggest themselves for the kind of treatment I have indicated, and, if the history teaching has been carried on throughout on the lines suggested, the elder pupils ought to know a good deal already of all these subjects and should be able to follow the series with real interest.

In conclusion, I have no doubt that, with the writer in the *Contemporary Review*, I shall be told that all this "is too difficult and it is

not history"! In that case we might agree to change the name, but I think we ought still to teach the subject, under whatever name it may appear on our school syllabuses. M. S.

July 15th, 1897.

THE CERTIFICATE EXAMINATION.

To the Editor of the Educational Times.

SIR,—Would you allow me to suggest a modification of the Certificate Examination Regulations? As they stand, candidates entering for the Second and Third Classes may elect to be examined in a higher class in any subject or subjects. Why should not the converse hold true? Why should not First Class candidates be allowed to take papers in the Second, or even in the Third, Class? Of course, the conditions of passing in the First Class must be fulfilled: but there seems to be no reason why such candidates should not offer subjects on a lower standard, in addition to their First Class subjects, provided that marks gained by them on Second Class papers be divided, say, by two, and those obtained on Third Class papers, by three. It very often happens that our pupils are examined in some only of the subjects of which they have a more or less extensive knowledge. AIKMAN WILSON.

A TESTIMONIAL TO MR. W. J. C. MILLER.

MR. MILLER's many friends will have heard with great regret that he has been compelled by illness, and by the absolute necessity of rest, to bring to a close his long association with the special feature of "Mathematics" in the *Educational Times*. At the same time he resigns his post as Registrar of the General Medical Council. Mr. Miller's mathematical work in our columns, which was to him, in the best sense, a labour of love, has been carried on without intermission for a period of about forty years.

Some of his friends and contributors think that this is a fitting occasion for recognizing the value of his services, and presenting him with a small token of esteem. A watch, bearing a suitable inscription, with a purse of gold, would, it is believed, be an acceptable gift, and this is the form the testimonial will take. A fund is being raised for the purpose, and the Rev. Robert Harley, M.A., F.R.S., Rosslyn, Westbourne Road, Forest Hill, S.E., has undertaken the office of Treasurer. Any contributions sent to him will be at once acknowledged. The Hon. Secretary of the Fund is Mr. Geo. S. Carr, 4 Ladbroke Crescent, W.

Numerous, rather than large, subscriptions are desired, the object being to show Mr. Miller how widely his work is appreciated. More than twenty years ago the late Professor W. K. Clifford testified to the "very great ability, tact, and energy," with which Mr. Miller had "conducted the mathematical part of the *Educational Times*, which portion," he said, "notwithstanding its unpretending shape, has done more (I believe) to suggest and encourage original research than any other European periodical." In the same letter he speaks of himself as "having been Mr. Miller's pupil, through the medium of the *Educational Times*, for the last twelve years." Other mathematicians, more recently, have borne similar testimony, acknowledging their personal indebtedness to Mr. Miller, especially in having inspired and directed their early efforts. Many of his correspondents, including some men of the highest eminence, such as Clifford, Cockle, Cayley, and Sylvester, have passed away, but a goodly number remain, and, judging from the response already made, there is reason to anticipate a gratifying result.

The following is a Third List of subscriptions:—

	£.	s.	d.
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MATHEMATICS.

13497. (Professor A. DROZ-FARNY.)—Si, dans un triangle ABC, l'angle A est égal à 45°, la droite qui joint le centre du cercle circonscrit au pied de la hauteur abaissée de A passe par le point de LEMOINE.

Solution by Professor SANJÁNA, M.A.

The trilinear equation of the line through circum-centre and LEMOINE's point is $\alpha \sin(B-C) + \beta \sin(C-A) + \gamma \sin(A-B) = 0$.

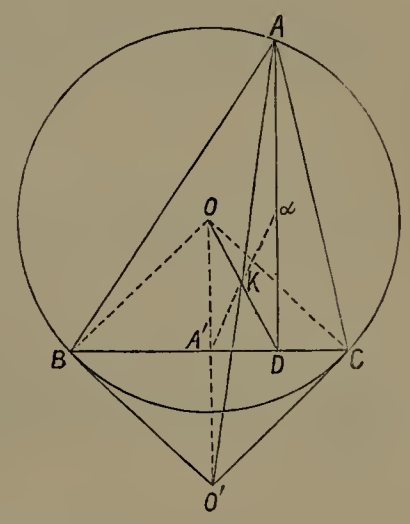
The coordinates of D, the foot of the perpendicular from A, are $(AD \equiv p_1)$, $\alpha = 0$, $\beta = p_1 \cos c$, $\gamma = p_1 \cos B$.

Substituting these, the left side

$$= p_1 \{\cos C \sin(C-A) + \cos B \sin(A-B)\}$$
$$= \tfrac{1}{2} p_1 \{\sin(2C-A) - \sin A + \sin A - \sin(2B-A)\}$$
$$= p_1 \cos(B+C-A) \sin(C-B) = p_1 \cos 90^\circ \sin(C-B) = 0;$$

whence the theorem.

[The PROPOSER gives the following geometrical solution of this Question:—"Soient O′ le symétrique du centre O du cercle circonscrit par rapport au côté BC, A′ le point milieu de BC, D le pied de la hauteur abaissée de A et α son point milieu.

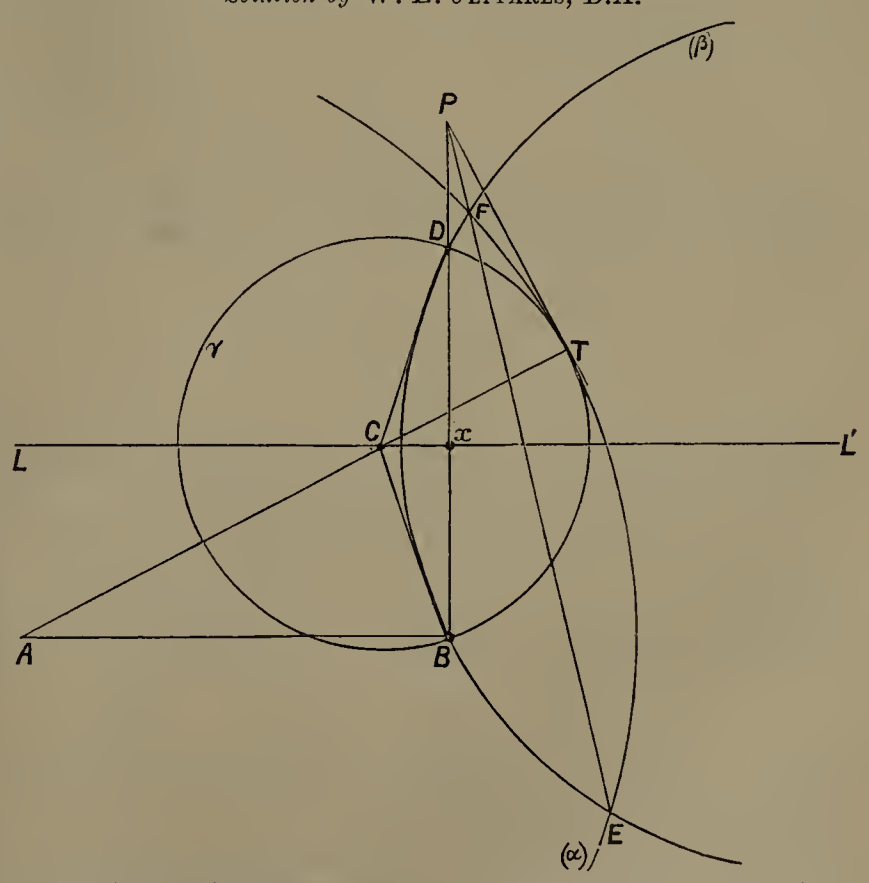


Dans le triangle proposé, le quadrilatère OBO′C étant un carré, O′ sera le pôle de BC par rapport à la circonférence circonscrite, donc AO′ est la symédiane issue de A. Mais, d'après un théorème connu, le point de LEMOINE se trouve aussi sur la droite A′α, et par conséquent K est le point d'intersection de AO′ et de A′α.

Mais dans le trapèze OO′DA les diagonales doivent se couper sur la médiane, donc O, K, et D sont en ligne droite."]

13429. (P. W. FLOOD.)—Construct a triangle (geometrically) having given the base, the altitude, and sum of sides.

Solution by W. E. JEFFARES, B.A.

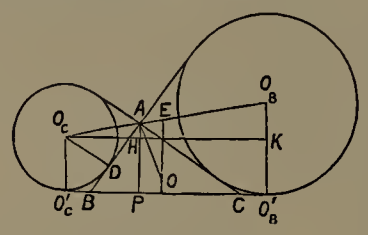


Let AB be the given base. At B erect a perpendicular Bx to AB, and equal to the given altitude. Through x draw LL′ parallel to AB; LL′ is the locus of the vertex. With A as centre and the given sum of sides as radius, describe the circle (α); produce Bx to D until Dx = Bx. Now, through B and D, describe a circle touching the circle (α) as follows. Take any point on LL′ as centre, and describe the circle (β) passing through B and D, and cutting circle (α) in the points E and F. Join EF, and produce it to meet BD produced in P; from P draw PT tangent to circle (α). Now through B, D, T describe a circle; this will be the required circle (γ), which will touch (α) at T, for $PT^2 = PE \cdot PF = PB \times PD$ from circle (β). Therefore PT is tangent to circle (γ) at T, and therefore the circle (γ) touches (α). [The rest in Volume.]

13350. (Professor NATH COONDOO.)—In a triangle ABC are given the centres of the escribed circles opposite B, C, respectively, and the length of the side BC; prove that (1) A lies on a fixed straight line, (2) AB, AC are given in direction, (3) the circumscribed circle is given in magnitude, and (4) the centre of the circumscribed circle lies on a fixed circle equal to the circumscribed circle.

Solution by Rev. J. CULLEN, B.A.; W. E. JEFFARES, B.A.; *and others.*

Draw O_CK, AP, and O_CD perpendicular to O_BO_B', BC, and AB, respectively.



(1) A clearly lies on O_CO_B, since common tangents meet on the join of the centres.

(2) $AO_C : O_CO_B = AH : O_BK$
$= 2S/a - S/(s-c) : S/(s-b) - S/(s-c)$;
$\therefore\ a/O_CO_B = (s-b)/AO_C = AD/AO_C = \cos O_CAD$,
or $\angle O_CAD = \angle O_BAC = \text{constant}$.

(3) $R = abc/4S = a/2\sin A = BC/2\sin 2O_CAD$.

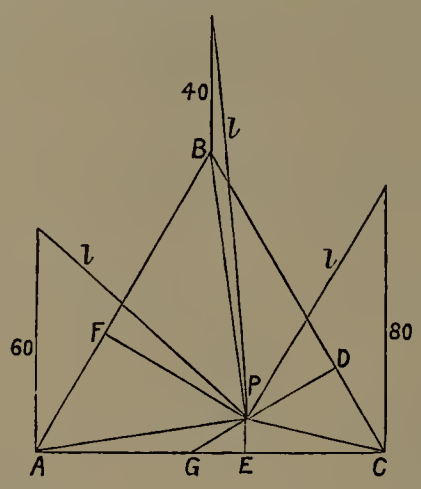
(4) Draw OE perpendicular to BC through O, the circumcentre. Then
$EO_B = EO_C$.
Also $\angle EAO = \angle AEO$; $\therefore\ OE = OA = R$.

[The rest in Volume.]

13441. (Professor BOGLE.)—A triangular piece of ground is 100 feet on each side. At each corner is a post, 40, 60, and 80 feet high, respectively. What length of rope fastened at some point within the triangle will just reach the top of each post?

Solution by Rev. J. CULLEN, B.A.; W. E. JEFFARES, B.A.; *and others.*

Let P be the point, and l the length of the rope. Draw perpendiculars from P on the sides and PD (say) to meet AC in G. We have then



$l^2 = 60^2 + AE^2 + PE^2$
$= 80^2 + CE^2 + PE^2$;
$\therefore\ 80^2 - 60^2 = AE^2 - (100 - AE)^2$;
$\therefore\ AE = 64$ and $CE = 36$.
Similarly, $CD = 26$. Also
$CD = (CE + EG)\sin 30°$
$\angle CGD = 30°$) and $EG = PE\cot 30°$;
$\therefore\ PE = 16/\sqrt{3}$.
Hence $l^2 = 60^2 + 64^2 + 16^2/3$ or
$l = 88{\cdot}211$ ft.

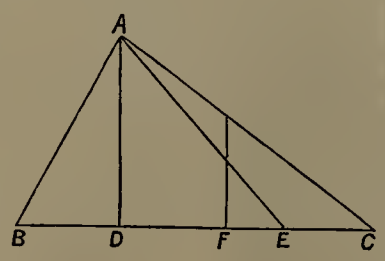
[Mr. CURJEL solves the Question as follows:—The perpendiculars from the required point, P, clearly divide the sides into parts 60, 40; 64, 36: 26, 74 ft. long, starting from the first post. Let x = length of perpendicular from P on the first side. Then

$x\sqrt{3}/2 = 44$ ft.; $\therefore\ x = 88/\sqrt{3}$ ft.;
$\therefore$ length of rope $= (1600 + 3600 + \frac{7744}{3}\text{ ft.})^{\frac{1}{2}}$
$= \frac{4}{3}(4377\text{ ft.})^{\frac{1}{2}}$ ft. $= 88{\cdot}212$ ft. nearly.]

13349. (Professor FINKEL.)—Draw a line perpendicular to the base of a triangle dividing the triangle in the ratio of m to n.

Solution by W. E. JEFFARES, B.A.; H. W. CURJEL, M.A.; *and others.*

Draw AD perpendicular to the base BC of $\triangle ABC$.



Divide BC at E in the ratio $m : n$, and let E fall between D and C; from CD cut off CF, so that
$CF^2 = CE \cdot CD$.
Then F is clearly the point through which the perpendicular must be drawn.

There will be two positions of F, for we may divide BC in the ratio $m : n$ or $n : m$.

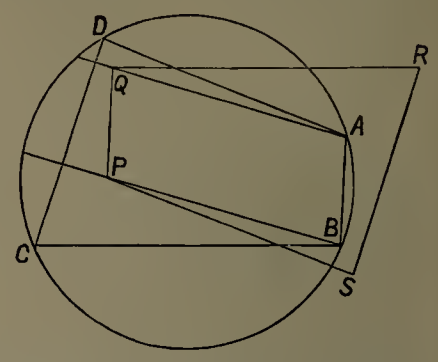
[The rest in Volume.]

13450. (W. C. STANHAM.)—If A, B, C, D are concyclic points, and P, Q, R, S are the orthocentres of BCD, CDA, DAB, ABC, respectively, then P, Q, R, S are concyclic points, and A, B, C, D are the orthocentres of QRS, RSP, SPQ, PQR, respectively, and the quadrilaterals ABCD, PQRS are equal and similar.

Solution by H. W. CURJEL, M.A., the PROPOSER, *and many others.*

Since Q, P are the reflections in CD of the points in which the perpendiculars from A and B to CD meet the circle, ABPQ is a parallelogram. Similarly CDRS, BCQR, ADPS are parallelograms. Hence the theorem.

[Professor A. DROZ-FARNY solves the Question as follows:—Le théorème de Mr. STANHAM est une conséquence directe des deux théorèmes bien connus suivants:—



(i.) Si quatre points d'une hyperbole équilatère sont concycliques, l'un quelconque de ces points est diamétralement opposé de l'orthocentre du triangle des trois autres.

(ii.) L'hyperbole équilatère qui passe par les trois sommets d'un triangle passe aussi par son orthocentre.

L'hyperbole équilatère qui passe par les quatre points A, B, C, D passe aussi d'après (ii.) par P, Q, R, S. D'après (i.) les droites AP, BQ, CR, DS se coupent en parties égales au point W, centre de l'hyperbole. Les deux quadrilatères ABCD et PQRS sont en homothétie inverse; w etant le centre et -1 le rapport l'homothétie.

L'hyperbole passant par les quatre points concycliques P, Q, R, S et, A étant diamétralement opposé de P, A est l'orthocentre du triangle QRS, &c.]

13435. (Professor SCHMITT.)—A and B are two integers, A consisting of $2m$ figures each being 1, and B consisting of m figures each being 4. Prove that $A + B + 1$ is a square.

Solution by WILLIAM LEWIS, M.A.; T. WIGGINS, B.A.; *and many others.*

$$A = 1 + 10 + 10^2 + \ldots + 10^{2m-1} = \frac{10^{2m} - 1}{9};$$

$$B = 4(1 + 10 + 10^2 + \ldots + 10^{m-1}) = 4 \cdot \frac{10^m - 1}{9}.$$

$$\therefore\ A + B + 1 = \frac{10^{2m} - 1}{9} + 4 \cdot \frac{10^m - 1}{9} + 1 = \frac{10^{2m} + 4 \cdot 10^m + 4}{9}$$

$$= \left(\frac{10^m + 2}{8}\right)^2 = \text{a perfect square.}$$

[Mr. CURJEL and Mr. BATES show that the result takes the following form:—If a_m denotes m digits (each $= a$) following one another,

$$A + B + 1 = 1_m 5_{m-1} 6;$$
$$\therefore\ 9(A + B + 1) = 10_{m-1} 40_{m-1} 4 = (10_{m-1} 2)^2;$$
$$\therefore\ A + B + 1 = (3_{m-1} 4)^2.]$$

13489. (W. J. DOBBS, M.A.)—Each of the expressions

$$x^6 - 15x^4y^2 + 15x^2y^4 - y^6, \quad 6x^5y - 20x^3y^3 + 6xy^5$$

is unaltered by the substitution of

$$\frac{x - (3)^{\frac{1}{2}}y}{2} \text{ for } x, \quad \text{and} \quad \frac{x(3)^{\frac{1}{2}} + y}{2} \text{ for } y.$$

Solution (1) *by* L. E. REAY, B.A.; (2) *by* Professor SANJÁNA, M.A.

(1) Put $\dfrac{x - (3)^{\frac{1}{2}}y}{2} = X$, $\dfrac{x(3)^{\frac{1}{2}} + y}{2} = Y$;

$$X + iY = x\left(\frac{1 + i\sqrt{3}}{2}\right) + iy\left(\frac{1 + i\sqrt{3}}{2}\right) = \omega(x + iy);$$
$$\therefore\ (X + iY)^6 = (x + iy)^6;$$

therefore, on expanding and equating real and imaginary parts,

$$X^6 - 15X^4Y^2 + 15X^2Y^4 - Y^6 = x^6 - 15x^4y^2 + 15x^2y^4 - y^6$$

and $$6X^5Y - 20X^3Y^3 + 6XY^5 = 6x^5y - 20x^3y^3 + 6xy^5,$$

which shows that the expressions are unaltered by the given substitutions.

[The rest in Volume.]

13536. (Rev. W. A. WHITWORTH, M.A.).—If two points be taken at random on the area of a circle, their average distance apart is $\frac{128}{45}\pi$ of the radius.

Solution by the PROPOSER.

(i.) Let P, Q be random points on a circle, and A a fixed point on the circumference. Let $AR = r$ be a chord of the circle making an angle θ with the diameter AB, and let R′ be a point on the circumference indefinitely near to R.

Chance of P lying on ARR′ is $r^2\,d\theta \div \pi a^2$, θ varying from 0 to $\frac{1}{2}\pi$. But, if P lie on ARR′, the expectation of AP is $\frac{2}{3}r$. Hence

$$E(AP) = \int \tfrac{2}{3}r^3\,d\theta \div \pi a^2 = \frac{16a}{3\pi}\int \cos^3\theta\,d\theta = \frac{32a}{9\pi}.$$

(ii.) Let P be at a distance x from the centre (chance $\propto x\,dx$) and let Q be nearer to the centre (chance $= x^2 \div a^2$).

Then by (i.) $E(PQ) = 32x \div 9\pi$. But x varies from 0 to a.

Hence generally

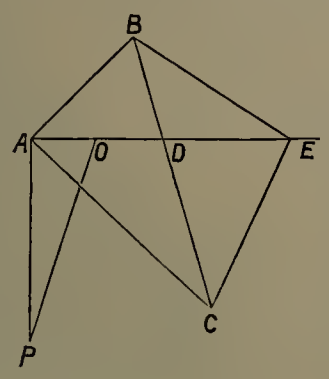
$$E(PQ) = \frac{32}{9\pi}\int_0^a x^4\,dx \div \int_0^a x^3\,dx = \frac{128a}{45\pi}.$$

[For another Solution of this Question see Vol. LV., p. 137, under Question 11031.]

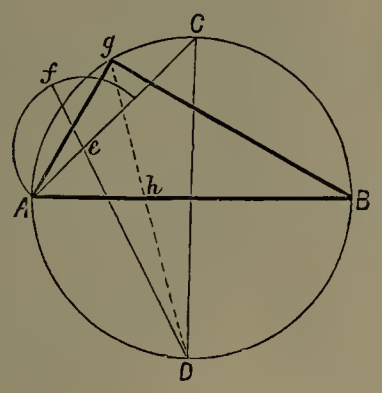
13532. (H. W. Curjel, M.A.)—Given the hypotenuse of a right-angled triangle and the length of the line bisecting the right angle, construct the triangle by means of ruler and compasses only.

Solution by T. M. A. Cooper, M.A.; L. E. Reay, B.A.; *and others.*

Let AD be the length of the given bisector. Draw AP at right angles to AD, so that AP^2 = half the square on the given hypotenuse. Bisect AD at O; produce AD to E so that OE = OP. Then $ED.EA = AP^2$. Complete triangle ABE, so that $\angle BAE$ is half a right angle, and BE = AP. Join BD and produce it to meet AC, at right angles to AB at C. ABC is the required triangle. (The proof is simple. $\triangle$s EBD, EAB are similar, for $ED.EA = AP^2 = BE^2$; whence ED : EB = EB : EA; $\therefore$ $\angle EBD$ is half a right angle. Hence E, B, A, and C are concyclic, and, joining EC, CEB is an isosceles right-angled triangle. Therefore BC^2 = twice EB^2 = twice AP^2. Hence BC must be of the given length for the hypotenuse of the required triangle. ABC must therefore be the triangle required.)



[Mr. Woodcote West solves the Question as follows:—Let AB be the given hypotenuse. On AB describe a circle, and draw the diameter CD at right angles to AB. Join AC, and make Ae = one half the bisecting line. With centre c and radius Ae, describe a semicircle on AC, and draw the line Df passing through e. With centre D and radius Df, obtain the intersection g, and join Ag, gB. Then AgB is the required triangle, for, by construction, gh = 2Ae.]



13537. (W. E. Jeffares, B.A.)—If $\tan(\psi-\phi) = \cos\alpha\tan\phi$, show that $(1-\sin^2\alpha\sin^2\phi)(1-\tan^4\frac{1}{2}\alpha\sin^2\psi)$ is a perfect square and independent of ψ.

Solution by Rev. T. Roach, M.A; L. E. Reay, B.A.; *and others.*

$$\tan(\psi-\phi) = \cos\alpha\tan\phi;\quad \therefore\quad \tan\psi = \frac{\tan\phi\,(1+\cos\alpha)}{1-\cos\alpha\tan^2\phi};$$

$$\therefore\quad \sin^2\psi = \frac{\tan^2\phi}{1+\tan^2\phi}\cdot\frac{(1+\cos\alpha)^2}{1+\cos^2\alpha\tan^2\phi} = \frac{\sin^2\phi\,.\,4\cos^4\frac{1}{2}\alpha\,.\,\cos^2\phi}{1-\sin^2\alpha\sin^2\phi};$$

$$\begin{aligned}\therefore\quad &(1-\sin^2\alpha\sin^2\phi)(1-\tan^4\tfrac{1}{2}\alpha\sin^2\psi)\\ &= 1-\sin^2\alpha\sin^2\phi-(1-\cos\alpha)^2\sin^2\phi\cos^2\phi\\ &= 1-\sin^2\phi+\cos^2\alpha\sin^2\phi-\cos^2\phi\sin^2\phi\\ &\qquad+2\cos^2\phi\sin^2\phi\cos\alpha-\cos^2\alpha\sin^2\phi\cos^2\phi\\ &= \cos^4\phi+2\cos^2\phi\sin^2\phi\cos\alpha+\cos^2\alpha\sin^4\phi = (\cos^2\phi+\sin^2\phi\cos\alpha)^2.\end{aligned}$$

13545. (R. Chartres.)—A person can buy for 10*s.* an umbrella that will last him two years, or for 19*s.* one that will last him three years. Supposing the person to live for nearly six years, find at what per cent. the difference in the present value of the umbrellas will be (1) a maximum, (2) a minimum, and show (3) that the minimum is not the least value of the difference.

Solution by the Proposer.

The difference in present values $= 19\,(1+1/R^3)-10\,(1+1/R^2+1/R^4)$; therefore $R = 1\frac{1}{4}$, or 25 per cent. gives a maximum difference of $8\frac{29}{125}$ shillings; and $R = 1\frac{3}{5}$, or 60 per cent. gives a minimum difference of $8\frac{423}{2048}$ shillings. Evidently R = 1, or no per cent., gives the least difference, 8 shillings.

Also the maximum value is not the greatest.

4989. (J. J. Walker, M.A.)—Deduce the form of the Catenary from the consideration that its centre of gravity must be the lowest possible.

Solution by Rev. J. Cullen, B.A.

Assuming the length constant and the mass proportional to the length, we have

$$\bar{y} = \int_{x_0}^{x_1} y\,ds \Big/ \int_{x_0}^{x_1} ds \quad\text{and}\quad \int_{x_0}^{x_1} ds = l.$$

Hence

$$V = l^{-1}y\,(1+p^2)^{\frac{1}{2}} + a\,(1+p^2)^{\frac{1}{2}};$$

and, since $V = Pp + C$, we have $y + al = lC\,(1+p^2)^{\frac{1}{2}}$.

$$\therefore\quad dx/dy = lC/\{(y+al)^2 - l^2C^2\}^{\frac{1}{2}}$$

$$\text{or}\quad x = \alpha\log\left[y+\beta+\{(y+\beta)^2-\alpha^2\}^{\frac{1}{2}}\right] + C_1,$$

α, β, and C_1 being constants depending on the conditions of the problem.

This gives the general form of the common Catenary, and more general Catenaries may be deduced with the Calculus of Variations by making the depth of the centre of gravity a maximum, as in the question.

QUESTIONS FOR SOLUTION.

13575. (The late Professor Sylvester, F.R.S.) — Show that in multiplying together two numbers the chances of the first figure in the product being 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 are as 4, 12, 4, 12, 9, 12, 4, 12, 4, 27, respectively.

13576. (Professor M. W. Crofton, F.R.S.)—If $4n-1$ is a prime number, then $1\,.\,2\,.\,3\ldots(2n-1)\pm1$ is divisible by $4n-1$.

13577. (Professor Neuberg.) — Calculer les côtés d'un triangle sphérique dont on donne les hauteurs.

13578. (The late Professor Wolstenholme, M.A., Sc.D.)—Given a conic whose equation is S = 0, the equation of a conic S′ such that the tangents drawn to S, S′ from any point on either of two straight lines $L_1 = 0$, $L_2 = 0$, is $S = L_1^2/S_1 + L_2^2/S_2$, where (x_1y_1), (x_2y_2) are the poles of L_1, L_2 with respect to S, and S_1, S_2 the values of S at these poles. The equations $L_1 = 0$, $L_2 = 0$ must, of course, be so taken that the value of L_1 at (x_1y_1) is S_1, and of L_2 at (x_2y_2) is S_2.

[Of course, the invariant relation $\Theta\Theta' = \Delta\Delta'$ must be satisfied between S and S′, and the above equation for S′ containing four arbitrary constants will be the general equation of S′, when S is given and the relation $\Theta\Theta' = \Delta\Delta'$ holds.]

If the two points (x_1y_1), (x_2y_2) be conjugate with respect to S_1, the above equation for S′ will become $u^2 = 0$, where u is the straight line joining the two points.

A corresponding theorem holds in three dimensions, the invariant relation being then $\Theta\Theta' = 4\Delta\Delta'$, the discriminant of $kS + S'$ being of the form $(k+1)^2\,(k^2-c^2)$, and c vanishing when the two points are conjugate with respect to S.

13579. (Professor A. Droz-Farny.)—On donne deux points A, B et une droite g. Chaque circonférence du faisceau ayant les points donnés comme centres coupe la droite donnée suivant les points C, D et la perpendiculaire abaissée de A sur G au point E. Quelle est la courbe enveloppée par les droites EC et ED?

13580. (Professor Morley.)—It is required to connect two straight railway lines, making an angle $\pi-\alpha$, by a transition curve of minimum length, subject to the desirable conditions that the curvature shall be continuous and never greater than a given number $1/a$. Prove that, when the transition curve is two arcs of the spiral $s = c\sqrt{\omega}$, the length of the transition curve is $2a\alpha$. And investigate whether this is the minimum length.

[The above spiral is Cornu's spiral; it is known to American engineers as Holbrook's spiral. If the questions, of which the above is a simple instance, have received any attention from the mathematical standpoint, I shall be glad of some references.]

13581. (Professor Sanjána.)—On the sides of an n-gon, ABC ... N, describe similar triangles A1B, B2C, C3D, ... NnA, outwardly and similarly; when any one of the triangles is inwardly described, let it be described inversely, and let its vertex be denoted negatively. Denote by $\{1\,.\,2\,.\,3\ldots n\}$ the centre of equal like parallel forces acting at the points 1, 2, 3, ... n; when any force acts at a negative vertex, let it be considered to be unlike the rest. Then prove (1) that

$$\{1\,.\,2\,.\,3\ldots n\} \equiv \{A\,.\,B\,.\,C\ldots N\};$$

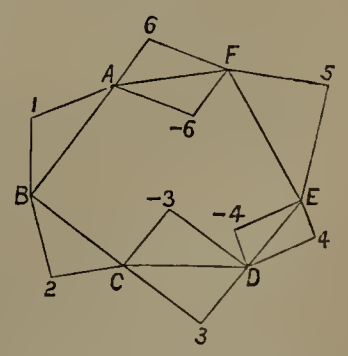
(2) that, when any one of the vertices 1, 2, 3, ... n is negative, the extremities of its sides are to be introduced negatively into the dexter; and and hence (3) that

$$\{(1)\,.\,(2)\,.\,(3)\ldots(n)\} \equiv \{(A)\,.\,(B)\,.\,(C)\ldots(N)\}.$$

[Thus, taking the hexagon, the centres of equal like parallel forces at 1, 2, 3, 4, 5, 6, and at A, B, C, D, E, F, coincide; and

$$\{1\,.\,2\,.\,(3)\,.\,4\,.\,5\,.\,6\}$$
$$\equiv\{A\,.\,B\,.\,C\,.\,D\,.\,E\,.\,F\,.\,(C)\,.\,(D)\}$$
$$\equiv\{A\,.\,B\,.\,E\,.\,F\},$$

i.e., the centre of equal parallel forces at 1, 2, −3, 4, 5, 6, that at −3 being unlike the rest, coincides with the centre of equal like parallel forces at A, B, E, F; and



$$\{1\,.\,2\,.\,(3)\,.\,(4)\,.\,5\,.\,6\}$$
$$\equiv\{A\,.\,B\,.\,C\,.\,D\,.\,E\,.\,F\,.\,(C)\,.\,(D)\,.\,(D)\,.\,(E)\}\equiv\{A\,.\,B\,.\,(D)\,.\,F\};$$

also

$$\{1\,.\,2\,.\,(3)\,.\,4\,.\,5\,.\,(6)\}\equiv\{A\,.\,B\,.\,C\,.\,D\,.\,E\,.\,F\,.\,(C)\,.\,(D)\,.\,(F)\,.\,(A)\}$$
$$\equiv\{B\,.\,E\}\equiv\text{mid-point of BE}.$$

See Quests. 10080 and 13553.

13582. (Editor.)—The axes of an ellipse are 10 and 20; find the mean length of all the radius-vectors drawn from (1) the centre, (2) the focus.

13583. (D. Biddle.)—Prove that the r final digits of 2^{4n} are similarly

placed in the sum of the first r terms of the following series:—

$$6+10(n-1)\left\{6+8+\frac{1}{n-1}\right\}+10^2\frac{(n-1)(n-2)}{1.2}\left\{6+2.8+4+\frac{2}{n-2}\right\} \quad \ldots\ldots (1, 2, 3),$$

$$+10^3\frac{(n-1)(n-2)(n-3)}{1.2.3}\left\{6+3.8+3.4+2+\frac{3}{n-3}\right\} \ldots\ldots (4),$$

$$+10^4\frac{(n-1)\ldots(n-4)}{4!}\left\{6+4.8+6.4+4.2+\frac{4}{n-1}+6\frac{n-5}{n-1}+\frac{4}{n-4}\right\}. (5),$$

$$+10^5\frac{(n-1)\ldots(n-5)}{5!}$$

$$\left\{6+5.8+10.4+10.2+\frac{5.5}{n-1}+(6.5+8)\frac{n-6}{n-1}+\frac{5}{n-5}\right\}\ldots (6),$$

$$+10^6\frac{(n-1)\ldots(n-6)}{6!}$$

$$\left\{6+6.8+15.4+20.2+\frac{15.6}{n-1}+(6.15+8.6+4)\frac{n-7}{n-1}+\frac{6}{n-6}\right\}. (7),$$

$$+10^7\frac{(n-1)\ldots(n-7)}{7!}$$

$$\left\{6+7.8+21.4+35.2+\frac{35.7}{n-1}+(6.35+8.21+4.7+2)\frac{n-8}{n-1}+\frac{7}{n-7}\right\} \quad \ldots\ldots (8),$$

$$+10^8\frac{(n-1)\ldots(n-8)}{8!}\left\{6+8.8+28.4+56.2+\frac{70.8}{n-1}\right.$$

$$\left.+\left[6.70+8.56+4.28+2.8+\frac{8}{n-2}+6\frac{n-10}{n-2}\right]\frac{n-9}{n-1}+\frac{8}{n-8}\right\}\ldots (9),$$

+ &c.

[It will be observed that the process becomes more involved at the beginning of each set of four terms, but enough terms are here given to show how the series may be continued *ad libitum*. The corresponding digits of intervening powers of 2, namely, $4n+1$, $4n+2$, $4n+3$, can be found by multiplying those obtained for $4n$ by 2, 4, or 8.]

13584. (Rev. W. Allen Whitworth, M.A.)—A die of p faces is thrown repeatedly until the number of aces turned up is to the number of not-aces as $1 : p-1$. Show that the chance of this happening at the np^{th} throw, and not before, is

$$\frac{(np-2)!\,(p-1)^{np-n}}{(n)!\,(np-n-1)!\,p^{np-1}}.$$

13585. (Rev. T. Mitcheson, B.A.)—If a, b, c be the sides of a triangle, x, y, z the medians, and l, m, n the perpendiculars from the respective angular points upon the sides, then

$$4(x^2+y^2+z^2) = 3(l^{-2}b^2m^2+m^{-2}c^2n^2+n^{-2}a^2l^2).$$

13586. (R. W. Chapman, M.A., B.C.E.)—Any three circles are drawn with A, B, and C as centres. Show that the common radial axis of the three circles of similitude of these circles taken in pairs passes through the centre of the circle circumscribing the triangle ABC.

13587. (H. MacColl, B.A.)—Out of 31 mixed statements, consisting of 7 *certainties*, 11 *impossibilities*, and 13 *variables* (neither certainties nor impossibilities), a statement A is taken at random; and out of a similar collection of 31 statements, mixed in the same proportion, a statement B is taken at random. Show (1) that the chance of the alternative $A'+B$ being true (*i.e.*, that either A is false or B true) lies between $\frac{3}{4}$ and $\frac{793}{961}$; and (2) that the chance of the implication $A : B$ being true (*i.e.*, that, if A is true, B is true) lies between $\frac{481}{961}$ and $\frac{950}{961}$. Can the exact values, or nearer limits, of the above chances be obtained from the data?

Note.—The implication $A : B$ is understood to assert that we cannot consistently with our data and definitions affirm A, and at the same time deny B.

13588. (H. W. Curjel, M.A.)—Prove, by Euclid, Book I., that any triangle described on the hypotenuse of a right-angled triangle is equal to the sum of the triangles, equiangular to it, described on the other two sides.

13589. (W. J. Dobbs, M.A.)—The triangle ABC, right-angled at C, is the vertical section of a rough inclined plane. When the plane is placed with AC horizontal and BC vertical, a given force P, acting parallel to the plane, can just move a mass of unknown weight W *up* the plane; when the plane is placed with BC horizontal and AC vertical, another given force Q, acting parallel to the plane, can just prevent the same mass from slipping *down* the plane. Give a geometrical construction for determining the weight W and the angle of friction.

Also, if P, Q, and W are all known, while the inclination of the plane and the coefficient of friction are to be determined, show that there may be two planes of different inclinations, but of the same coefficient of friction, satisfying the given conditions.

13590. (J. Woodcote West.)—(1) 2^k cards, when shuffled one by one x^x times, return to their original order x^{x-1} times: determine x. (2) If the nth card from the top is the "akinete" of a pack shuffled one by one, it becomes the $(n.2^{[1+(-1)^{n/2}]/2})^{\text{th}}$ card after the pack has been shuffled once by two's.

13591. (Robert W. D. Christie.)—

$$1\,002\,003\,004\,005\,006\,007\,009 \equiv 0 \bmod 37.$$

Leaving the zeros alone, the other digits may be interchanged anyhow. Prove the general theorem for any odd prime divisor.

13592. (R. Chartres.)—Given two sides of a triangle ABC, and Σ(FA), construct the triangle, F being Fermat's point, so that Σ(FA) is a minimum.

13593. (W. E. Jeffares, B.A.)—Let $2c$ be the base of a spherical triangle, and β be the arc of a great circle connecting the vertex with the base; also let θ be the angle made by β with the base. Prove that

$$\frac{(1-\tan^2\frac{1}{2}c\tan^2\frac{1}{2}\beta)\tan\frac{1}{2}E}{2\tan\frac{1}{2}c\tan\frac{1}{2}\beta} = \sin\theta,$$

where E is the spherical excess.

13594. (R. Knowles, B.A.)—A circle touches a given rectangular hyperbola in P, and cuts it in QR; the tangent at P meets QR in D; K is the pole of QR with respect to the hyperbola. Prove that (1) the envelope of DK is a conic, which touches the hyperbola in P, and cuts it in two other points Q′, R′; (2) the cord of curvature at the point P of the hyperbola passes through the pole of Q′R′ with respect to the hyperbola.

13595. (J. Macleod, M.A.)—From a point P on an ellipse whose centre C a line PE parallel to the major axis meets the diameter of the ellipse parallel to the tangent at P in E; the same diameter meets the normal at P in F. If G be the intersection of the normal and minor axis and n be the intersection of PE and minor axis, show that the tangent from P to the circle circumscribing ECn is constant, and that the tangent from n to the circle circumscribing CGF is equal to the ordinate of the auxiliary circle passing through P. Also, if the chord of contact JLS of n with respect to the circle CGF intersect CG in L, show that JL, CL are to each other in the ratio of the major to the minor axis of the ellipse.

13596. (R. F. Davis, M.A.)—If upon given oblique axes OX, OY points P, Q be respectively taken such that PQ is of constant length, determine the locus of the N.P. centre of the triangle OPQ.

13597. (Morgan Brierley.)—Given the perpendicular from the right angle upon the hypotenuse of a right-angled triangle, to determine its area a maximum.

13598. (P. W. Flood.)—Bonnycastle, in his *Algebra*, requires two numbers in the proportion of 8 : 15 such that the sum of their squares will be a square. Why in the ratio of 8 : 15?

13599. (Salutation.)—In a given quadrilateral an octagonal space is enclosed by drawing pairs of lines from each angle. Find the area of this space (1) when the lines bisect the opposite sides, (2) when they bisect the angles formed by the particular diagonal and the adjacent sides.

13600. (Elizabeth Blackwood.)—Given (1) that, if A is true, B is true; and (2) that, if C is true, A and B cannot both be true. From these data may we infer that C may be true? May we infer that C must be false?

[This problem, rather differently worded, has been already discussed by logicians. See Dr. Venn's *Symbolic Logic*, Second Edition, p. 442.]

13601. (H. J. Woodall, A.R.C.S.)—A toy very much in vogue at the end of 1893 was thus made. The top of a tin can (or a small round flat tin disc) with a hole through the centre; a long piece of string, one end fastened at the hole, the other held in the hand of a running youngster (till some body is tripped up). Required the theory, including length of string, velocity, &c.

13602. (Rev. J. Cullen, B.A.)—Given four coplanar closed polygons whose sides are $a_1, a_2, \ldots a_p$, $b_1, b_2, \ldots b_q$, $c_1, c_2, \ldots c_r$, $d_1, d_2, \ldots d_s$, show that

$$(\Phi_{ab}^2+\Psi_{ab}^2)(\Phi_{cd}^2+\Psi_{cd}^2) = \Theta_a\Theta_b\Theta_c\Theta_d,$$

where

$$\Phi_{ab} = \Sigma a_m b_n \cos\phi_{m,n}, \quad \Psi_{ab} = \Sigma a_m b_n \sin\phi_{m,n},$$

$$\Theta_a = \Sigma a_m^2 + 2\Sigma a_m a_n \cos\theta_{m,n},$$

excluding in each case a_p, b_q, c_r, and d_s, $\phi_{m,n}$ and $\theta_{m,n}$ being the angles between a_m and b_n, a_m and a_n.

13603. (I. Arnold.)—A gentleman gets £100,000, which he invests at 4 per cent. compound interest, but spends £8,000 yearly. In what time will he have nothing? (The exact time is required.)

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English History.

1. Barratt, Miss A. I.	Private tuition.
2. Bullivant, J. A.	Mr. Woodhall, Polytechnic Intermediate School, W.
2. Millard, Miss L. J.	Miss Bowen, Red Maids' School, Bristol.

Geography.

1. Nicol, J.	Messrs. Butler and Brown, Tollington Park College, N.
2. Cowper, H.	Mr. Wood, Darlington Grammar School.

Arithmetic.

1. Nicol, J.	Messrs. Butler and Brown, Tollington Park College, N.
2. Symonds, Miss L. K.	Mrs. Symonds, Collegiate School, Ealing Road, Brentford.

Algebra.

1. Cowper, H.	Mr. Wood, Darlington Grammar School.
2. Aston, W. D.	Mr. Spurgeon, New College, Worthing.

Euclid.

1. Tapp, J. R.	Rev. W. Watson, Kingsbridge Grammar School.
2. Duncan, G. S.	Mr. Wood, Darlington Grammar School.
2. Hunter, T.	Rev. F. L. Brereton, North-Eastern County School, Barnard Castle.
2. Rothera, C. H.	Rev. L. H. Pearson, Market Bosworth Grammar School.

Trigonometry.

1. Duncan, G. S.	Mr. Wood, Darlington Grammar School.
2. Cowper, H.	Mr. Wood, Darlington Grammar School.

Mechanics.

1. O'Neill, C. S.	Mr. Walmsley, The Grammar School, Eccles.
2. Griffin, Miss D. L.	Private tuition.

Book-keeping.

1. Buckler, J. E. W.	Mr. Knowles, Hornsey Grammar School, Stroud Green, N.
2. Duckett, G.	Rev. Brother James, St. Joseph's College, Dumfries.

Mensuration.

1. Cowper, H.	Mr. Wood, Darlington Grammar School.
2. Brickell, H. E.	Mr. Clayton, Warwick House, Southsea.

French.

1. Delonnoy, C.	Mr. Hawe, The High School, Croydon.
2. Bourgault, A. R.	Private tuition.

German.

1. Goldstein, J. L.	Private tuition.
2. Hrauda, C. F.	Messrs. Butler and Brown, Tollington Park College, N.
2. Lommel, Miss M.	Mrs. and the Misses Piper, The Hollies, Great Malvern.

Spanish.

1. Ingouville, J. G.	Mr. Davey, Oxenford House, St. Lawrence, Jersey.
2. Frias, M.	Rev. O. L. Powels, St. George's College, Weybridge.

Latin.

1. Charles, L. S.	Mr. Hawe, The High School, Croydon.
1. Cowper, H.	Mr. Wood, Darlington Grammar School.
1. Peacock, W. H.	Mr. Wood, Darlington Grammar School.

Greek.

1. Charles, L. S.	Mr. Hawe, The High School, Croydon.
1. Sandercock, L.	Mr. Sandercock, Sidcup College.

Sound, Light, and Heat.

1. Davies, J. H.	Mr. Fleming, Higher Grade School, Merthyr Tydfil.
2. Cole, E. O.	Private tuition.
2. Meynell, J. L.	Very Rev. Canon Conway, D.D., St. Mary's College, Woolhampton.

Chemistry.

1. Nicol, J.	Messrs. Butler and Brown, Tollington Park College, N.
2. Yates, J. S.	Mr. Mitchell, Polytechnic Technical School, W.

Electricity and Magnetism.

1. Nicol, J.	Messrs. Butler and Brown, Tollington Park College, N.
1. Price, L. E.	Mr. Hooson, Bourne College, Quinton, Birmingham.
1. Stordy, T.	Rev. T. J. Cunningham, Hutton Grammar School, near Preston,
1. Whitehead, G.	Mr. Ellis, Rutherford College, Newcastle-on-Tyne.

Natural History.

1. Nicol, J.	Messrs. Butler and Brown, Tollington Park College, N.
2. Falconer, Miss J.	The Misses Stone and Lee, Salem House, Sunderland.

Drawing.

1. Bullivant, J. A.	Mr. Woodhall, Polytechnic Intermediate School, W.
2. Dracass, Miss A. M.	Private tuition.
2. Kitto, W.	Messrs. Butler and Brown, Tollington Park College, N.

Music.

1. Stenton, F. M.	Rev. J. S. Wright, The Collegiate Grammar School, Southwell.
2. McConnochie, Miss A. E.	Mrs. Bateman, Southolme High School, Whalley Range.
2. Millard, Miss L. J.	Miss Bowen, Red Maids' School, Bristol.
2. Patching, Miss G. E.	Miss Davies, Nevill College, Tunbridge Wells.

Political Economy.

1. Ockleston, Miss N. K.	Mrs. Mills-Carver, Stroud Green High School, Oakfield Rd., N.
1. Ritchie, Miss A. E.	Mrs. Hiatt, The Ladies' College, Wellington, Salop.

Shorthand.

1. Bullivant, J. A.	Mr. Woodhall, Polytechnic Intermediate School, W.
2. Lowman, W.	Mr. Gubb, Taunton's Trade School, Southampton.

Domestic Economy.

1. Knott, Miss L.	Miss Twose, Darlington High School.
2. Bullick, Miss E. G.	Miss Hunter, Princess Gardens School, Belfast.
2. Craig, Miss J. P.	Miss Cunningham, Clooney Terrace Ladies' School, Londonderry.
2. McConnochie, Miss A. E.	Mrs. Bateman, Southolme High School, Whalley Range.
2. Vellacott, Miss C. M.	Miss Bennett, Steyne School, Worthing.

GENERAL CLASS LIST—BOYS.

N.B.—The small italic letters denote that the Candidate to whose name they are attached was distinguished in the following subjects respectively:—

a. = Arithmetic.
al. = Algebra.
bk. = Bookkeeping.
ch. = Chemistry.
d. = Drawing.
do. = Domestic Economy.
e. = English.
el. = Electricity.
eu. = Euclid.
f. = French.
g. = Geography.
gr. = Greek.
ge. = German.
h. = History.
he. = Hebrew.
i. = Italian.
l. = Latin.
m. = Mechanics.
ms. = Mensuration.
mu. = Music.
nh. = Natural History.
p. = Political Economy.
s. = Scripture.
sd. = Sound, Light, and Heat.
sh. = Shorthand.
sp. = Spanish.
tr. = Trigonometry.

The small figures [1] *and* [2] *prefixed to names in the Second and Third Class Lists denote that the Candidates were entered for the First and Second Classes respectively.*

In the addresses, S. = School, C. = College, H. = House, Inter. = Intermediate, Tech. = Technical.

First Class.—Honours Division.

Cowper, H. *e.a.al.tr.ms.f.l.el.* Darlington Gram. S.
Nicol, J. *g.a.el.ch.nh.* Tollington Park Coll.
Duncan, G.S. *al.tr.ms.l.* Darlington Gram. S.
Heiser, F.B. *s.e.f.* Tollington Park Coll.
Thomson, G. *al.f.d.* Rutherford C., Newcastle-on-T.
Rothera, C.H. *f.* Market Bosworth Gram. S.
O'Neill, C.S. *tr.ms.f.sh.* Gram. S., Eccles
Bullivaut, J.A. *a.bk.h.d.sh.* Polytechnic Inter. S., W.
Turner, H. *el.d.* Tollington Park Coll.
Bntler, F. *h.d.* Tollington Park Coll.
Aston, W.D. *e.a.al.f.mu.* New C., Worthing
Carter, N.J. *e.al.sh.* Tollington Park Coll.
Buckler, J.E.W. *bk.ms.sh.* Hornsey Gr. S.
Cooper, H. *d.sh.* Tollington Park Coll.
Luke, W.J. *f.l.* Bible Christian C., Shebbear
Aldridge, F.F. *f.l.* Balham S.
Goodrich, R.C.J. *sh.* Tollington Park Coll.
Potts, J. *el.sh.* Henry Smith S., Hartlepool
Westrup, W. *h.* Horsmonden S.
Johnson, F.W. *bk.nh.* Tollington Park Coll.
Gregory, S.P. *s.e.sd.* Bible Christian Coll., Shebbear
Griffith, A.D. *nh.* Tollington Park Coll.
LeBas, E.E. *e.f.* Bible Christian C., Shebbear
Graham, O. *el.* Darlington Gram. S.
Williams, A.B. Truro Coll.
Cnnningham, A.J.W. *cl.ch.* Hutton Gr. S.
Hodge, A.S. Tollington Park Coll.
Moxley, H.R. *d.* Bible Christian C., Shebbear
Tapp, J.R. *eu.l.* Kingsbridge Gram. S.
Cunningham, G.C. *d.* Up. Hornsey Rise S.
Charlton, F.E. *sd.* Bible Christian Coll., Shebbear
Sandercock, L. *f.gr.* Sidcup Coll.
Gale, B.M.T. *h.f.* 27 Chancery Lane
Thorne, H.W. *a.* Sandwich S.
Peacock, W.H. *l.cl.* Darlingtou Gram. S.
Smith, E.W. *ms.* Hastings Gram. S.
Gammon, H.L. *d.sd.* Bible Christian Coll., Shebbear
Penny, R.H. Taunton's Trade S., South'pton
Low, A.D. *ch.* Ruthin Gram. S.
Aviss, W.G. Borden S., Sitingbourne.
Smith, J.F. *ch.* Hutton Gram. S., Prestou
Eggleston, F.E. *sh.* Henry Smith S., Hartlepool.
Ovey, W. Polytechnic Intermediate S., W.
Hammond, G. *f.sh.* Camden Road Coll. S.
Stanton, H.J. *a.* Laxton S., Oundle
Ryle, H. King James I. S., Bp. Auckland

First Class.—Pass Division.

Mallett, P. Bible Christian Coll., Shebbear
Tregear, G.H. Taunton's Trade S., Southampton
Wilbraham, C.T. Private tuition
Gaine, H.J. Argyle H., Sunderland
Julian, R.J.P. Truro Coll.
Stevenson, W.E. Newcastle Modern S.
Yates, J.S. *ch.* Polytechnic Technical S., W.
Stordy, T. *el.* Hntton Gram. S., Preston
Beaumont, A.R. Brighton H., Bristol
Sunley, H. Upper Hornsey Rise H. S.
Merefield, B.S. *c.f.* St. Aloysius Coll., Hornsey Lane
Best, M.G. Hastings Gram. S.
Cade, G.H. *e.* Laxton S., Oundle
Barter, G.C. *d.* Collett House, Bonrnemouth
St. John Firth, N.A. *nh.* Tollington Pk. C.
Jones, J. Carmarthen County S., Pencader
Whitehead, J. Hntton Gram. S., Preston
Cooper, H. Polytechnic Intermediate S., W.
Thompson, G. K. James I. S., Bp. Auckland
Wordsworth, C.E. County S., Dolgelley
Blane, T.H. *el.* Hutton Gram. S., Preston
Grech, A.E. *bk.f.* Hastings Gram. S.
Dinwiddy, M.J. Sidcnp Coll.
Worthy G.T. Argyle H., Sunderland
Tope, E.J. High School, Croydon
Green, G. Horsmonden S.
Brickell, H.E. *a.ms.sd.el.* Warwick H., Southsea
Marett, P.J. *f.* Victoria Coll., Jersey
Taylor, J.E.N. *sh.* Polytechnic Inter. S., W.
Hoare, D.F.J. Laxton S., Oundle
Kean, F.J. *sd.* St. Mary's C., Woolhampton
Tonkin, S.S. University S., Rochester
Burleigh, S.R. *a.bk.sh.* Polytechnic Inter. S., W.
Cattle, A.J. *bk.sh.* Hornsey Gram. S.
Carr, J. Hutton Gram. S., Preston
Duncan, J.B. Darlington Gram. S.
Haken, A.J. *sh.* Bethany H., Goudhurst
Barugh, H.P. *el.* High S., Stockton-on-T.
Featherstonhangh, W.S. Balham S.
Johnson, A.E. *ms.* Manor H., Hastings
Ruddle, D.A. Bible Christian C., Shebbear
Sorel, V.A. *f.* St. George's C., Weybridge
Temple, M. Private tuition
Wheatland, R.R. *bk.sh.* Polytechnic Inter. S., W.
Dickinson, E. Darlington Gram. S.
Dinwiddy, C.H. Sidcup Coll.
Leigh, W.D. Milton Abbas S., Blandford
West, W. Taunton's Trade S., Southampton
Booth, H.G. University S., Southport
Tuppen, C.J. Hastings Gram. S.
Pigott, R. *f.* Gram. S., Streatham
Harrington, A.G. Tollington Park Coll.
Chandler, F.J. Tolliugton Park Coll.
Crowther, L.D. *sh.* Taunton's Trade S., Southampton
Gill, W.H. Kingsbridge Gram. S.
McCullogh, R.M. Hastings Gram. S.
Engelke, F.C. *sh.* Polytechnic Inter. S., W.
Meynell, J.L. *d.sd.* St. Mary's Coll., Woolhampton
Palmer, A.R. Portland Gram. S., Plymouth
Sanderson, J.G. Hastings Gram. S.
Wilson, L.E. *d.* Elm Bank S., Nottingham
Whitamore, V.N. Tettenhall Coll., Wolverhampton
George, B.I. Milton Abbas S., Blandford
Smyth, E.H. *s.* Private tnition
Kendon, A.J. Bethany H., Goudhurst
Stenton, F.M. *mu.* Gram. S., Southwell
Watson, A.P. *f.* Private tuition
Whitehead, S. *sh.* Hutton Gram. S.
Dixon, A.C. Laxton S., Oundle
Johnston, A.E. Sutton Park S., Surrey
Kennard, J.A. Sidcnp Coll.
Raynes, H.E. Wm. Ellis S., Gospel Oak
Stace, R.J. Manor H. Coll., Hastings
Forster, H.F. Private tuition
Masters, R.E. St. Aloysius C., Hornsey Lane
Jarvis, E. Taunton's Trade S., South'pton
Reed, H.C. *el.* Darlingtou Gram. S.
Marks, J. St. Joseph's Coll., Dumfries
Street, H.B. Sandwich S.
Stone, J.P. *d.* Prelim. Med. C., Ludgate Hill
Lowman, W. *d.sh.* Taunton's Trade S., Southampton
Short, A.E. Laxton S., Oundle
Atkins, H.L. *f.* Newbury Gram. S.
Hofland, N.L. Truro Coll.
Cowper, P. Collett House, Bournemouth
Blake, W.T. Bethany H., Goudhurst
Seal, F.W. Laxton S., Oundle
Widdas, H. King James I. S., Bp. Auckland
Hunter, T. N.E. County S., Barnard Castle
Aviss, H.M. Borden S., Sittingbourne
Nowell, R.B. *d.* University S., Southport
Buxton, G.P.H. Sarsfield H., Roath
Mylan, W.F. Ilkley Coll.
Hallowes, A. Private tuition
Todd, T.E. Henry Smith S., Hartlepool
Sewell, J.S. Sandyford Acad., N'castle-o.-T.
Tanner, H.A. University S., Southport
Frias, M. *f.* St. George's Coll., Weybridge
Yates, R.W. *d.* Fartown Gr. S., Huddersfield
Kitto, W. *d.* Tollington Park Coll., N.
Le Grand, C.C. Forest Hill Mid. Cl. S.
Loe, W.E. Farnham Gram. S.
Greenway, E.E. *d.* Tollington Park Coll.
Hosking, R.G. *bk.* Truro Coll.
Todd, P.D. *bk.* Woodgrange H., Forest Gate
Jackson, T.R. Wolsingham Gram. S.
Taylor, R.C. Brixton Gram. S.
Weston, W.J. Hastings Gram. S.
Holden, A.E.W. *e.sh.* Worthing Gram. S.
Jones, A.G. Ruthin Gram. S.
Jones, J.H.M. Ruthin Gram. S.
Benians, T.H.C. Bethany H., Goudhurst
Flood, T.B. St. Joseph's Coll., Tooting
Soper, F.L. Portland Gram. S., Plymouth
Whitehead, G. *el.* Rutherford Coll., Newcastle-o.-T.
Foucar, G.E.F. *ge.* Comm. C., Chanc'y L.
Gilbert, E.A. Kurnella, Bournemonth
Palamountain, W.B. Whitchurch Gram. S.
Self, P.A. Kingston S., Yeovil
Slee, E.J. Bible Christian Coll., Shebbear
Le Masurier, E.P. *f.* St. James' C. S., Jersey
Mackenzie, A.F.K. Private tuitiou
Pickthall, F.J. Harlesden Coll.
Bunbury, W.J. St. George's C., Weybridge
Jones, H. *sd.* Old Coll. S., Carmarthen
Sly, H.B. Seaford Coll.
Reed, J.P. High S., Stockton-on-Tees
Robinson, G.H. Private tuition
Seeley, F.H. Private tuition
Cooksey, T. Halesowen Gram S.
Dyer, B.S. Hastings Gram. S.
Furnival, T.F. Llandudno Coll.
Roberts, R.F. Sutton Park S., Surrey
Palmer, H. Polytechnic Intermediate S., W.
Speakman, T.G. University S., Southport
Matthews, O.J. *h.* Private tuition
Hoskiug, W.T. Truro Coll.
Cleminson, F.H. *cl.* Darlington Gram. S.
Perrey, J.L. Hastings Gram. S.
Whittington, R.P. Ruthin Gram. S.
Court, T.H. *f.* Llandudno Coll.
Noble, B. Sidcup Coll.
Raper, A.J. St. Joseph's Coll., Tooting
Ball, A. University S., Southport
Husband, A.W.L. E. Cornwall C., Liskeard
Shipley, W.H. St. John's Coll., Brixton
Whitlow, H.L. *sh.* Craven Pk. Boys' C., N.W.
Bloxsome, E.W.P. The Coll., Weston-s.-M.
Watts, L.N. Sandwich S.

Second Class.—1st Division.

[1]Watson, A.E. *d.sh.* Polytechnic Inter. S., W.
[1]Charles, L.S. *h.l.gr.* High S., Croydon
Jones, A.O. Tollington Park Coll.
[1]Jenvey, H.C. *ch.d.* Cosham Boys' S.
Danby, C. *c.a.al.m.el.* Eton House, Hull
Hart, S. *a.al.d.* Kingsbridge Gram. S.
Kendrick, G.V. *c.h.a.al.d.* Richmond Hill S., Surrey
Capon, J.C. *e.h.ch.d.* Private tuition
Ecroyd, F.T. *e.a.al.ch.* Private tuition
Marchant, W. *a.ch.d.sh.* Taunton's Trade S., Southamptou
[1]Kingston, C.S. Private tuition
Litten, C.P. *a.al.ch.* Truro Coll.
[1]Sulman, H.E.J. Tollington Park Coll.
Palmer, E.H. *h.ch.* Queen's Walk Hr. Grade S., Nottingham
Richards, P.P. *h.a.ch.d.* Queen's Walk Hr. Grade S., Nottingham
Freshney, H.W. *a.al.d.* Wirksworth Gram. S.
[1]Harman, J.B. Gram. S., Belper
Hodson, W. *h.g.a.al.d.* New Coll., Worthing
Garrett, R.R. *a.f.* Henley House, Mortimer Road, N.W.
Davies, J.H. *a.sd.* Higher Grade S., Merthyr Tydfil
Maccabe, A. *e.nh.* St. Joseph's C., Dnmfries
Winterflood, B.W. *al.* Polytechnic Tech. S.
[1]Bouud, H.C. *sh.* Taunton's Trade S., Southampton
Galloway, J. *h.a.al.* Epsom Coll.
Smith, T.M. *e.g.f.* Eton House, Anerley Rd.
Truby, E.C. *s.* Tollington Park Coll.
Hall, J. *d.* Clare House, Margate
[1]West, S.G. *d.* Taunton's Trade S., Sonth'pton
Goldstein, J.L. *al.ge.* Private tuition
Keay, R.W. *g.* Tollington Park Coll.
Rogers, T.R.A. *e.ch.* Ruthin Gram. S.
[1]Clarke, A.H. Taunton's Trade S., South'pton
Guns, D.R. *e.h.a.f.* Sandyford Acad., Newcastle-on-T.
Larner, H.S. *f.sh.* Camden Road Coll. S.
[1]Parmeter, E. Taunton's Trade S., South'pton
Ash, C.D. Tollington Park Coll.
Bird, E.F. *e.* Tollington Park Coll.
Bourne, E.H. *e.bk.d.* Hillmartin Coll., Camden Road
Butler, O.H. *e.g.* Tollington Park Coll.
Lidstone, H.H. Tollington Park Coll.
Wells, E.G. *d.sh.* Hornsey Gram. S.
Brookes, A. *al.d.* Wirksworth Gram. S.
Holder, S.R. *e.h.* Tollington Park Coll.
Hull, W.B.R. *a.al.d.* Darlington Gram. S
Oram, E.G. Coopers' S., E.
Wingent, R.M. *e.al.* Private tuition
[1]Bell, E. *el.* Rutherford C., Newcastle-on-T.
Bourne, T.A. *a.* Henry Smith S., Hartlepool
Martin, A.J. Tollington Park Coll.
Smalley, J. *m.d.* Victoria Hall, Manchester
Fouracre, S.F. *g.* Tollington Park Coll.
Jackson, T.M.L. *e.h.* Hornsey Gram. S.
Savage, C. *a.al.* Taunton's Trade S., Southampton
Sturt, R.W. *d.* Hornsey Gram. S.
Vernon, A.A. *ch.* Private tuition
Finestone, H. *e.he.sh.* Liverpool Coll.
Adamson, H.J.W. *a.* Tollington Park Coll.
Divall, H.D. *a.* Hastings Gram. S.
Garnish, W.G. *e.a.d.* Bible Christian Coll., Shebbear
Goodrich, H.A.W. *e.g.* Tollington Park Coll.
Jones, J.O. *ch.* Ruthin Gram. S.
Putt, W.P. *e.a.al.* Kingsbridge Gram. S.
[1]Russell, H. Taunton's Trade S., South'pton
White, R.L. *ch.* Darlington Gram. S.
Wilkes, J.E. *ch.d.sh.* Private tuition
Holder, H.C. Tollington Park Coll.
Bnrt, B.C.G. *a.d.* Polytechnic Tech. S., W.
Moon, A.T. *a.* Camelford Gram. S.
[1]Murray, H.J. Hornsey Gram. S.
Davies, T.A. *g.a.* Tollington Park Coll.
Grant, E.W. *e.d.* Sir A. Judd's Comm. S., Tonbridge
Roberts, E.A. *s.l.* Private tuitiou
Cutler, F.J. *h.* Clare H., Margate
Kendall, F.E. *d.* Almondbury Gram. S.
Ganly, J. *a.* St. Joseph's Coll., Dumfries
Barron, J.B. *a.* Private tuition
Gilfillan, R.B. *e.* Tollington Park Coll.
Green, F.M. *d.* St. Paul's S., W.
Hampson, C.N. *e.* Epsom Coll.
[1]Junor, P.B. N.E. County S., Barnard Castle
Kilvert, E. *h.a.* Port Villa S., Dorringtou
King, W.A.D. Private tnition
Turpin, A.E. *al.* Hastings Gram. S.
Bashford, H.H. *e.f.* Private tuition
Farrant, E. Private tuition
Fearman, W.F. Tollington Park Coll.
Humphry, P.R. Epsom Coll.
Levy, C.L. *d.* University S., Rochester
[1]Rankin, W.R.T. *f.* Cowley C., New Barnet
Sleigh, H.R. Queen Mary's House, Walsall
Dnckett, G. *bk.* St. Joseph's C., Dumfries
[1]Gubbay, D.M. *f.* Private tuition
Lamb, G.T. *f.d.* Bible Christian C., Shebbear
King, R.H. *g.* Tollington Park Coll.
Monks, C. *d.* Upper Hornsey Rise H. S.
Cattell, E.W. *d.* Tollington Park Coll.
Edwards, G.A. *sh.* County S., Dolgelley
Finigan, P.O'C. *f.ge.gr.* Private tuition
Robinson, F.J. *sh.d.* Argyle H., Sunderland
Sloane, K. Forest Hill Mid. Cl. S.
Nnnn, G. *ch.* Epsom Coll.
[1]Nutley, H.W. *ms.d.* Taunton's Trade S., Southampton
Shaw, H.I. *g.* Tollington Park Coll.
[1]Bromhall, H.J. *d.* Laxton S., Oundle
Buckley, A.H. University S., Southport
Lovell, J.L. *d.* Polytcchnic Tech. S., W.
Tickell, R.T.S. *a.al.* Bible Christian Coll., Shebbear
Bolam, J. *e.h.* Rutherford Coll., Newcastle-o.-T.
Moon, A.D. Hastings Gram. S.
Sadler, R.T. St. Paul's S., W.
Barnard, D. Tollington Park Coll.
Bentall, R.A. New Coll., Worthing
Bevington, F. Tollington Park Coll.
[1]Davies, D.J. Carmarthen County S., Pencader
Durrant, A.J. *d.* Woodgrange House, Forest Gate
Giroud, J. *f.* St. Joseph's Coll., Dumfries
Lawrence, T.L. *a.* County Int. S., Narberth
Lock, J.B. *l.* Beechen Cliff C., Peckham Rye
Mace, A.H. *e.* Ebor S., Bexhill
Melville, A.N. *ch.* St. Paul's S., W.
Priest, W. *g.d.* Penistone Gram. S.
Tandy, T. Hastings Gram. S.
Hansman, R.A. *h.d.* St. Paul's S., W.
Wolfenden, H. *al.* Burton Gram. S.
Arthur, F.G. *a.* The Coll., Weston-s.-M.
Dryden, A. *e.* St. Joseph's Coll., Dumfries
Hickman, E.F. *ch.d.* St. Paul's S., W.
Raine, R.H. *a.ge.* Darlington Gram. S.
Wells, E.L. Hastings Gram. S.

BOYS, SECOND CLASS—*Continued.*

Clifford, S. Private tuition
Hardman, C.N. *a.* Leeds Boys' Modern S.
Proudfoot, L.C. *e.sh.* Harringay Coll. S.
Smith, C. *e.h.* Fartown Gr. S., Huddersfield
Williams, T.P. *ch.* Ruthin Gram. S.

Jones, W.B. *d.g.* County Inter. S., Llandilo
Stamp, R.H. *g.* Argyle House, Sunderland
Steil, E.L. Tollington Park Coll.
Thomas, A. *d.g.* County Inter. S., Llandilo

Ashby, B.F. Hutton Gram. S.
Bailey, H.B. Hutton Gram. S.
Bottomley, A.C. The Coll., Weston-s.-M.
[1]Gilbard, J.W.H. Gram. S., Camelford
Gordon, W.T. *d.* Henry Smith S., Hartlepool
Reddrop, R.T. Kingsholme S., Weston-s.-M.
Wooldridge, H.J. Tollington Park Coll.

Goodchild, J.H. Tollington Park Coll.
Laydon, P. St. Joseph's Coll., Dumfries
Meaden, H.A. Merchant Taylors' S.
Toomey, H.S. North London Coll. S.
Willis, F.W. Witton Gram. S., Northwich

Clarke, H. St. Joseph's Coll., Dumfries
Fox, S.J. Tollington Park Coll.
Peacock, W.B. *gr.* Private tuition
Woodhead, F. *g.d.* Almoudbury Gram. S.

[1]Ashby, H. Forest Hill Mid. Cl. S.
Davies, J.J. *a.d.* Llandyssul Inter. S.
Earle, E., Wilsford House, Devizes
Hawkins, M.H. *g.* Hr. Grade S., Torquay
O'Meara, T. *d.* Cath. Coll. Inst., M'chester
Robertson, E.S. *d.*
Bible Christian Coll., Shebbear
Shepherd, F.J. *a.* Cardiff Middle Class S.
Soutry, T.L.B. Private tuition
Stanger Leathes, H.E. *s. e. gr.* Sherborne S.
Vosper, C. *h.* Plymouth & Mannamead C.
Williamson, H. Hutton Gram. S., Preston

Ashton, C.G. *e.* Tollington Park Coll.
Bartlett, O.M. Private tuition
Copland, J.B. *el.* Borden S., Sittingbourne
Fishwick, C. *f. d.* Private tuition
Hutchens, W.W. *c.*
Edward VI. Gram. S., Totnes
Pawlett, F. Oakham S.
Thornhill, E.R.H. *ch.*
Bible Christian Coll., Shebbear
Walsh, G.D. *s.* Lincoln Gram. S.

Boxall, L. Sidcup Coll.
Harris, G.H. *d.* Halesowen Gram. S.
Walker, A. Huntingdon H., Teddington

Dixon, P.St.J. Tollington Park Coll.
Rowse, R.M. Truro Coll.
Stepheus, B.M. Merchaut Taylors' S.

Hill, F. Elmhurst S., Kingston-on-Thames
Hoey, L. *e. al.* St. Mary's C., Woolhampton
O'Gorman, J. St. Joseph's Coll., Dumfries
Roberts, M.H. *a.* County S., Dolgelley
Weighell, H. *h.* Dunheved C., Launceston

Cordner, R.H.L. Private tuition
Fitz-Henry, R.S.W. Private tuition
Ferryman, A.G.R. Grosvenor S., Bath
Hallett, P. St. Mary's Coll., Woolhampton
Jewsbury, J. *g. d.*
St. Philip's Gram. S., Edgbaston
Owen, E. County S., Dolgelley
Pennington, C. Dudley House, Leigh
[1]Phillips, J.B. *f.* Ruthin Gram. S.
Rickard, J.B. *ch.* Dulwich Coll.
Slight, A. *d.*
Taunton's Trade S., Southampton
Windust, J.E. *d.* Polytechnic Tech. S., W.

Clatworthy, J.H. Fauconberge, Beccles.
Crawford, J.D. *d.* K. James I. S., Bp. Auckl'd
[1]Feiron, G.W. Polytechnic Inter. S., W.
Mead, T.F. Gram. S., Bournemouth
Mitchell, H. St. Paul's S., W.
[1]Penning, H.H. *d.* Esplanade H., Southsea
Poole, A.B. *a.* Hastings Gram. S.
Thomas, G.H. *ch.* Ruthin Gram. S.
Tinkler, J. University S., Southport
Turner, W.R.C. *a. d.*
Independent Coll., Taunton
Williams, R.P. Private tuition

Broodbank, A.J.P. *bk.*
Commercial Coll., York
Gilfillan, J.A. Tollingtou Park Coll.
Ingham, P.D. *d.* Truro Coll.
Litt, W.G. Private tnition.
Osborne, W.G. *g.* Heston H., nr. Hounslow

Burges, W.J.C.H. Wilsford House, Devizes
Downes, F.G. St. Philip's Gr. S., Edgbaston
[1]Geare, W.G. Private tuition
Hillyer, W.H. *d.* Dover Coll.
Hardman, W. University. S., Southport
North, T.W. Queen Mary's S., Walsall
Rains, G.H. *d.ge.* Private tuition
[1]Reynolds, B.H. *d.* Borden S., Sittingbourne
Robinson, G.H. University S., Southport
Roderick, D. County Inter. S., Llandilo
Speakman, E. University S., Southport
Stansfield, W. Private tuition
Warner, R.K. Dean Close S., Cheltenham

Harland, G.B. Osborne H.S., W. Hartlepool
Knight, C.H.E. *e.* Up. Hornsey Rise S.
[1]Reynolds, R.C. Borden S., Sittingbourne
Smith, K. The Avenuc, Leigh, Lancs.
Thomas, P. Huntingdou H., Teddington

Timmins, E.H. *e.d.*
St. Aloysius Coll., Hornsey Lane
West, F.P. *a.* E. Cornwall Coll., Liskeard
Winder, J. Hutton Gram. S., Preston

Denyer, C.H. Univ. S., Staplet'n Hall Rd., N.
Dickinson, G.H. *d.* Balham S.
Guy, G.E. Deal Coll.
[1]Hitchcock, H.G. Polytechnic Interm. S.
[1]Moutrie, S.E. *d.* Borden S., Sittingbourne

Carmau, J.E. *ch.*
Queen's Walk Hr. Grade S., Nottingham
Colthurst, W.B. *d.* Independent C., Taunt'n
Crabb, W. *a.* Foster's S., Sherborne
Downey, F. St. Joseph's Coll., Tooting
[1]Gaskin, H.A. St. Aloysius C., Hornsey Lane
[1]Gracie, H.J. St. Mary's C., Woolhampton
[1]Hampson, F. Cath. Coll. Inst., M'chester
King, F.H. Sir A. Judd's Com. S., Tonbridge
Lintott, A.L. Mercers' S., E.C.
Newman, R.G. Uckfield Coll., Brighton
Philpot, G.W. *d.* Montrose C., Brixton Hill
Stedall, H.M. Balham S.
Soper, G.E. United Westminster S.
Watts, P. Epsom Coll.

Baines, J. St. Joseph's Coll., Tooting
Bell, J.A. Private tuition
Clarke, R. Tauuton's Trade S., South'pton
Clutterbuck, G.W. Tollington Park Coll.
Coope, G.E. Hutton Gram. S., Preston
Cramb, F.B. *e.* Truro Coll.
Croot, H. Private tuition
Marson, F.J. *al.* Monkton House, Cardiff
Morton, A.P. Newbury Gram. S.
Sandiford, H.R. Tollington Park Coll.
Smith, J.S. *d.* Polytechnic Technical S., W.
[1]Wilson, W.F. Borden S., Sittingbourne

Burr, W.B. *e.* Tollington Park Coll.
[1]Cole, E.O. *sd.d.* Private tuition
Emerson, J.S. *a.* Singleton H., N'castle-o.-T.
Forster, H.C. Henry Smith S., Hartlepool
Goord, W.G. Tollington Park Coll.
[1]Ohlsen, H.A. Newcastle Modern S.
Petrie, W. High S., Croydon
Rose, C.E. Foster's S., Sherborne
Stirk, [illegible].E. Henry Smith S., Hartlepool

Buggs, F. Borden S., Sittingbourne
Burgoyne, G.O. *e.* University S., Southport
Cleminson, J. *ch.* Darliugton Gram. S.
Dowdy, W.C. *sh.* Tollington Park Coll.
Harvey, C.W.C. Private tuition
Highton, H.C. *d.* Uuiversity S., Southport
[1]Maile, G.W.C. Private tuition
Richard, W.R. Winchester House, Bristol
Taylor, J. *h d.* Lymm Gram. S.
Thatcher, J. *e.* Bristol Gram. S.
Wills, T.M. Tollington Park Coll.

Baldwin, C.H.R. Snettisham S.
Cawthorn, W. *a.al.* Newcastle Moderu S.
Cosway, W.W. Blundell's S., Tiverton
Davies, J. Llandyssul Inter. S.
[1]Harper, A.H. Lancing Coll.
[1]Lambirth, D.L. Private tuitiou
Packer, W.F.J. *bk.*
Hillmartin Coll., Camden Road
Raymeut, J.F.S. Dagmar H., Hatfield
Russ, E. *h.* Bible Christian C., Shebbear
Sleight, A. *al.* Argyle House, Sunderland
Thomas, S.R. *e.*
Carmarthen County S., Pencader
Tulk, H. Longsight Gram. S.
Wood, G.A. Tollington Park Coll.

Armstrong, J. *a.*
K. James I. S., Bp. Aucklaud
Bradley, C.H. *h.* Macclesfield Gram. S.
Chinneck, H.E. *d.* Private tuition
Davies, C.H. Shrewsbury Coll.
Fitch, S.H. *e.* Snettisham S.
Fox, F.N. *h.* Private tuition
[1]Gradon, H.L.
N.E. County S., Barnard Castle
Griffiths, H.E. *f.* Ruthiu Gram. S.
Henry, R. Woodside House, Sutton
Lewis, J.W. *e.* County S., Pontypridd
Proctor, A.I. Montrose C., Brixton Hill
Robertson, W.H.A. *e.ch.d.* St. Paul's S., W.
[1]Rowley, J.R. *d.* Balham S.
[1]Wilsou, F. N.E. County S., Barnard Castle

Ball, G. Catholic Coll. S., Lytham.
Canton, C.F. Private tuition
Carmon, W.H. Rutherford C., Newc'-on-T
Cochrayne, H. St. Johu's Coll. Brixton
Connery, W.J. *d.* St. Joseph's C., Tooting
Gibson, F.J. *c.* Rivington Gram. S.
Griffiths, E.R.
Latymer Up. S., Hammersmith
Johnson, M.R. Private tuition
Jones, W.M. Tollington Park Coll.
Kelly, H. Cath. Coll. Inst., Manchester
Morris, M. *d.* Tenby Inter. S.
Payne, A.E.P.
Taunton's Trade S., Southampton

Cheverton, A.
Taunton's Trade S., Southampton
Edmunds, E.F. Private tuition
Hogg, C.L. Coopers' S., E.
Jones, J. Private tuition
O'Brien, C.W. Beaumont Coll., Old Windsor
Tasker, A.C. Woodgrange H., Forest Gate
Yorke, W. University S., Southport

Bent, P.C.V. Private tuition

Bruce, G.S. *g.f.* Private tuition
Claydon, J.H. *e.*
St. Catharine's S., Broxbourne
Edwards, W.G. *gr.* Oswestry Gram. S.
Marshall, O. Private tuition
Smith, C.H. *d.* Tollington Park Coll.
Stevens, E.O. *sh.* The Grocers' S., N.E.
Vickers, C.L. Hutton Gram. S., Preston

Banks, W. *al.* Darlington Gram. S.
Campbell, J.M. *g.*
Cathedral Choir S., Edinburgh
Cranston, H.S. Private tuition
Ellis, M. Hastings Gram. S.
French, H.A. *d.* Hutton Gram. S., Prestou
Gabbutt, H.G.M. Foster's S., Sherborne
Gaffney, E.J. Private tuition
Hardcastle, S.B. *e.* Taunton H., Brighton
Horne, L.E. Lewisham H., Weston-s.-M.
Jolliffe, G.H. *d.*
Bible Christian Coll., Shebbear
[1]Mathews, G. Newbury Gram. S.
McKeogh, B. Cath. Coll. Inst., Manchester
Parkinson, S. Private tuition
Rattenbury, H.W. Balhau S.
Senst, M.H.J. High S., Croydon
Stadden, W.F. Forest Hill Middle Class S.
Wade, A.R. Univ. S., Stapleton Hall Rd., N.

Bennett, H.R. Tollington Park Coll.
Currie, H.L. Argyle House, Sunderlaud
Ellis, L.C. Private tuition
George, H.H.S. Private tuition
Lloyd, L.L. *ch.* Private tuition
Scymour, W. Newcastle Modern S.
Spurgeon, E.LeM. New Coll., Worthing
Sunley, J. Upper Hornsey Rise High S.
Turnbull, E. High S., Sutton, Surrey

Fisher, C.R. Cumberland House, Wye, Kent
Fuller, W.G. Esplanade House, Southsea
Goodiug, F.N. Dudley House, Lee
Howe, P. Hyde Gram. S.
Lark, T.F.A. Foster's S., Sherborne
Little, W.F. *e.* High S., Croydon
McKay, R.F. *a.d.*
Henry Smith S., Hartlepool
Prince, E. *a.*
Taunton's Trade S., Southampton
[1]Tadman, S. Private tuition
Thomas, D. Llandyssul Iutermediate S.
Toone, H.C. Wilsford H., Devizes
Urquhart, W. *e.* Polytechnic Inter. S., W.

SECOND CLASS.—2ND DIVISION.

Bloxham, D. *al.* Sidcup Coll.
Coster, K.H. *ch.* Marylebone Hr. Gr. Tech. S.
Hodge, C.W. Tollington Park Coll.
Lambert, W.G. Polytechnic Tech. S., W.
Lees, H.W. Longsight Gram. S.
Masters, E.G. *d.* Bordeu S., Sittingbourne
Purves, H. Singleton H., Newcastle-on-T.
Thompson, E.S. Q. Mary's High S., Walsall
Tull, J.L. St. Paul's S., W.
Wilson, T.W. Q. Mary's High S., Walsall
Wright, E.W.B. Carlisle Gram. S.

Bell, A. University S., Southport
Blackburn, L.L. *d.* University S., Southport
Crofts, A.D. *el.* Private tuition
Delahunty, J. *d.* Cath. C. Inst., M'chester
Goodman, H.T. Halesowen Gram. S.
Halling, G.L.L. Esplanade H., Southsea
Harris, G.W. Private tuition
Harris, R.H.T.P. Kelly Coll., Tavistock
Hawksley, W.L. University S., Southport
Sadgrove, W.A. *ch.* Private tuition
Tolhurst, F. Belvedere, Hayward's Heath
White, E. Private tuition

Beaty Pownall, T.T. St. Paul's S., W.
Blazer, M. *d.he.* Comm. High S., Southport
[1]Bovill, W.J. St. Aloysius C., Hornsey Lane
[1]Hodge, H. Uuiversity S., Southport
Jenkins, D.J. Kurnella, Bouruemouth
Ludovici, A.M. *f.d.*
Hillmartin Coll., Camdeu Road
Moorcroft, A.E. St. John's C., Grimsargh
Mumford, E.R. Private tuition
Murch, E.F. Upper Hornsey Rise High S.
Musgrave, P. Elmhurst S., Kingston-on-T.
Nichols, W.M. Q. Mary's High S., Walsall
Roberts, E. Ruthin Gram. S.
Saunders, R. Montrose Coll., Brixton Hill
Topp, R.F. Shrewsbury Coll.
Wardle, W.W.G. *d.* Finsbury Park Coll.
Warren, G.A. *e.* Hastings Gram. S.
Wisden, H. *a.* Hastings Gram. S.

Brown, C.W. Endowed Blue S., Frome
Hartridge, A.D. Ascham C., Clacton-on-S.
Mora, C.B. *h.* St. George's C., Weybridge
Rowland, A.H. *h.* Modern S., E. Grinstead
Sibthorpe, C.A. *d.* Wirksworth Gram. S.
Tattersall, J. Waterloo Coll., Liverpool
Tuteleers, E. *f.ge.* St. Joseph's C., Tooting
Wood, C.E. Waterloo Coll., Liverpool

Bagshaw, A.H. Private tuition
Bowes, G.R. Hastings Gram. S.
Carter, C.F. *d.* Warrior Sq. S., Southend
Cockram, L. Blundell's S., Tiverton
Cornford, A.E. *a.* Old Palace S., Maidstone
[1]Duncan, E.A. Oxford H., Sutherland Aven.
Fickling, R.M.
Victoria Coll., Buckingham Palace Road
Gale, R.A.B. Foster's S., Sherborne

House, C.E. Rye Gram. S.
Lacey, H.G. Clyde House, Hereford
Meager, H. St. Mary's Coll., Woolhampton
Quail, J.A. Liverpool Coll.
Roberts, T.R. Private tuition
Senior, M.C.T.W. *g.* Private tuition
Spencer, J. *d.* Laxton S., Oundle
Sullivan, B.M. *d.* Hastings Gram. S.
Thwaite, H. Arden H., Henley-in-Arden
Tilley, J.L.O. Private tuition

Arnold, L.E. *d.* St. Philip's Gr. S., Edgbastou
Davies, G.McD. High S., Croydou
Dell, F.S. Kingston S., Yeovil
Evans, W.H. *e.g.* Llandudno Coll.
[1]Green, G. Horsmonden S.
Hanbury, F.C. Marlborough Coll.
Hughes, W. Oswestry Gram. S.
Lloyd, J.H. *ch.* County Inter. S., Llandilo
Marshall, W.S. The Academy, Wakefield
Wills, A. Tollington Park Coll.

Adie, D.F. *g.* Private tuition
Backshall, F.S. *d.* Polytechnic Inter. S., W.
Balkwill, P.H. Kingsbridge Gram. S.
Bazeley, E.H. Private tuition
Bowles, D.W. Prospect House, Dover
Chandler, H.S. Carlyon Coll., Chancery Lane
Clapton, H. *e.* Harlesden Coll.
Crossley, J.A. Fartown Gr. S., Huddersfield
Goldsmith, D.E. *h.* Gram. S., Steyning
Grimston, F.S. Private tuition
Hopkin, E.M. County S., Pontypridd
Mitchell, R.P. Polytechnic Inter. S., W.
Neeves, F. Rye Gram. S.
[1]Nell, H. Private tuition
Raymond, G.S. Private tuition
Stagg, E. *f.* St. George's Coll., Weybridge
Wales, S.C.I. Thanet Coll., Margate
Watkins, E. Belvedere, Hayward's Heath

Angwin, J.T. Private tuition
Benians, H.J. Bethany House, Goudhurst
Boys, F.H. *a.* Warrior Square S., Southend
[1]Bridgeman, B.P. Private tuition
Gann, A.R. Laxton S., Oundle
[1]Gundry, R. *d.* Sidcup Coll.
McGibbon, D. *d.*
Cathedral Choir S., Edinburgh
Morgan, E.H. Tollington Park Coll.
[1]Mungal, R.E. Hastiugs Gram. S.
Netten, P.J. Private tuition
Thomas, J.J. Old Coll. S., Carmarthen
Westaway, C.C. *a.* Kingsbridge Gram. S.
[1]Wolf, H. Private tuition

Acres, G.C.J. Private tuition
Beare, H.L. *a.d.* Iudependent Coll., Taunton
Buist, T.R. St. Mary's Coll., Woolhampton
Bush, W.H. Private tuitiou
Fitch, C.H. Snettisham S.
Ingram, F.W. *d.* Kingston S., Yeovil
[1]James, C.G. Cavendish Coll., Southampton
Jones, G.R.J. *d.* High St., Burnham, Berks.
Keudall, T.H. Market Harborough Gram. S.
Norton, E.F. *e.f.* Wyllies, Cuckfield
[1]Shelmerdine, T.G. Laxton S., Ouudle
Sheppard, J.S. Coopers' S., E.
Tucker, P.G. Edward VI. Gram. S., Totnes
Waller, H. Taunton's Trade S., Southampton

Aldred, W.A. Fauconberge, Beccles
Bell, W.P. Dagmar House, Hatfield
Carter, S.J. Laugharne S., Southsea
Cuddon, F.T.A. *h.* St. George's C., Weybridge
Dunstan, J.B. Private tuition
Edwardes, A.D. Private tuition
Greenfield, H.H. Gram. S., Goole.
Hickley, T.B. Private tuition
Leverton-Spry, E. Vicarage S., Bradworthy
Stones, W. Modern S., Doncaster
Tamplin, C. Elmhurst S., Kingston-on-T.
Wade, G.F. *al.* University S., Rochester
[1]Walters, G. St. Mary's C., Woolhampton
Williams, G.C. *sh.* County S., Dolgelley

Bromley, R.C. Tollington Park Coll.
Charnock, J. *sh.* Ormskirk Gram. S.
Cunningham, P. St. Joseph's C., Dumfries
Gilford, N. Private tuition
[1]Gillow, G.M. Sandwich S.
Grimstoue, F.C. Darlingtou Gram. S.
Herring, J.T. Bedford Modern S.
Higginson, H.A. High S., Bolton
Marshall, E.C. Shrewsbury Coll.
Matthews, W. Tollington Park Coll.
Muirhead, A.H. Private tuition
Nok Yoong Private tuition
Palmer, F.R.E. Collingwood Coll., Lee
Port, H.W. Belvedere, Hayward's Heath
Probyn, F.E. Private tuition
Speechly, A.J.L. *m.* Dulwich Coll.
Sunley, W. *d.* Up. Hornsey Rise High S.
Tice, S.A. Private tuition

Brown, V. Private tuition
Collins, E.A. Fauconberge, Beccles
Curry, F.G. Darlington Gram. S.
Gunn, J.C. Argyle House, Sunderland
[1]MacFarlane, D. Hastings Gram. S.
Ridsdale, H.A. *e.* Laxton S., Oundle
[1]Sparke, N.L. *sh.* Deal Coll.
Stone, F. Lewisham H., Weston-s.-Mare
Turner, St.M.K. Castlebar Court, Ealing

Allan, T.N. *a.al.* Private tuition
Arthur, S. St. Mary's Hall, Cardiff
Blennerhassett, H. Tollington Park Coll.
Edwards, I.H. Oswestry Gram. S.

BOYS, SECOND CLASS—*Continued.*

Farnish, H. *sh.* Belle Vue, Greenwich
Finchett, G.P. *gr.* Oswestry Gram. S.
Godin, W. Elmhurst S., Kingston-on-T.
Hadlow, A.V. Lancaster Coll., W. Norwood
Hart, H.B. Tollington Park Coll.
Lovesy, A.C. Montrose Coll., Brixton Hill
Macqueen, H.Q. *e.* Univ. S., Up. Tooting
Matthews, H.T. Polytechnic Tech. S., W.
Monson, S. Polytechnic Interm. S., W.
Sarge, R.A. Private tuition
Seymour, C.G. *e.gr.* Private tuition
Tims, W. *g.* Bible Christian C., Shebbear
Welch, S.H.R. Private tuition
Whiting, A.J. Clyde House, Hereford
Whitington, P.B. Fortescue C., Radstock

Beer, H.J. Staddon House, Plymouth
Carlaw, H. Portsmouth Gram. S.
Chapman, P.W. The Blue S., Wells
[1]Dobell, L. Private tuition
[1]Hardwicke, L.C.V. 10 Worcester Terrace, Clifton
Horley, R.T. Polytechnic Intermediate S.
McClean, A.H. *a.* Harlesden Coll.
[1]Orme, W.P. Witton Gram. S., Northwich
Seabrook, H. Waltham Coll.
Walsh, P.T. Hastings Gram. S.
Wilson, W. Dudley House, Lee

Anwyl, C. Ruthin Gram. S.
Brown, H. Gram. S., Steyning
Hall, G.L. Commercial High S., Southport
Johnson, J.C. Private tuition
Kemsey-Bourne, C.W. Gr. S., W. Bromwich
Kerr, J.R. Shrewsbury Coll.
Lindsay, G. *d.* Balham S.
Luke, C.E. *e.* Truro Coll.
Madgin, F.R. Tollington Park Coll.
Morris, R.J. Cambridge House, Wigan
Nicolle, C.B. Oakwood House, Jersey
Patmore, D. *d.* St. Paul's S., W.
Robinson, B.H. *sh.* Hornsey Gram. S.
Robinson, S.W. Private tuition.
Symonds, A.W. Eye Gram. S.
Trebble, A. Kingsbridge Gram. S.

Argent, S.W. Forest Hill Middle Class S.
Barber, P.C. Catford Coll. S., Lewisham
Beeny, C.E. Uckfield Gram. S.
Bevis, G.F. Philological S., Southsea
Calver, C. Foster's S., Sherborne
Corbett, H.N. *e.* Shrewsbury Coll.
Grove, F.H. Halesowen Gram. S.
Gunner, H.G. Sir A. Judd's Commercial S., Tonbridge
Holzapfel, J.G. High S., Croydon
Johnston, R.A. Sutton Park S., Surrey
Rodway, J.H. *d.* Ch. Church Up. S., Salford
Saunders, C.B. Manwood's Gram. S., Sandwich
Wintle, H.C. Fortescue Coll., Radstock

Brown, L.S. *e.* Independent Coll., Taunton
Creedy, F. Camden Road Coll. S.
Herbert, G.W. *e.* Newbury Gram. S.
[1]Jones, W.H.M. Ruthin Gram. S.
Kœnigsfeld, G.A. Montrose C., Brixton Hill
Radcliffe, F.W. Heaton Lodge, Bradley
Roberts, H.H. Ruthin Gram. S.
Shaw, J.M. Argyle House, Sunderland
Tomblin, R.J.G. Marylebone Hr. Gr. Tech. S.

Hince, A.H. Private tuition
Hounsell, C. *d.* Foster's S., Sherborne
MacKay, D.S. Rye Gram. S.
[1]Mustard, H. Horsmonden S.
Owen, G.E. Kelly Coll., Tavistock
Scorey, A.T. St. Joseph's Coll. S., Totland Bay
Torry, F.G. *sh.* Bolton High S.
Turner, E. Sidcup Coll.
Yorke, C. University S., Southport

Baker, J.O. Worthing Gram. S.
Barnett, J. High S., Camborne
Brown, C.F.M.A. Private tuition
Bullpitt, R.M. Belvedere, Hayward's Heath
Cairus, A.J. Cambridge House, Margate
Colledge, H.C. Bible Christian C., Shebbear
Genge, P.W. Bible Christian C., Shebbear
Goodey, A. Private tuition
Gwatkin, L. Taunton House, Brighton
Hamonet, A.E. Mercer's S., E.C.
Pitkin, A.M. Private tuition
Reading, F.L. Llandudno Coll.
Rickerby, B. University S., Southport
Smart, N. Gram. S., Steyning
Staines, W.L. Tollington Park Coll.
Sykes, J.H.K. Technical Coll., Bradford
Williams, S. Penwerris Gram. S., Falmouth

Band, G.B. Ruthin Gram. S.
Brown, R.G. Jesmond Coll., Newc'.-on-T.
Burch, W.J.N. Foster's S., Sherborne
Cole, H.J. Staddon House, Plymouth
Eastman, S. Taunton's Trade S., South'pton
Edwards, H. *d.* Clyde House, Hereford
Emmanuel, D. County Inter. S., Llandilo
Gracie, C. St. Mary's Coll., Woolhampton
Harper, A. Dudley Middle Class S.
Hawkes, A.B. Private tuition
Haynes, E.L. Thanet Coll., Margate
Jones, T.E. County S., Pontypridd
Jupp, E.N. Private tuition
[1]Kirkby, J.L. St. Peter's S., York
Medcalf, E. Ormskirk Gram. S.
Morgan, W Private tuition

Murphy, F. St. Joseph's Coll., Dumfries
Murray, J. *a.* The Avenue, Leigh, Lancs.
Price, W.J. *d.* Gram. S., Bournemouth
Redfern, S.E. Winchester H., Gt. Yarmouth
Sheppard, E.J. Private tuition

Allen, F.W. *e.* Belvedere, Hayward's Heath
[1]Butler, P.R. St. George's Coll., Weybridge
Cottew, G.R. *f.* Carter House, Deal
Derriman, W.E.A. Foster's S., Sherborne
Lambourn, J. *a.* Hall Gate S., Doncaster
Lomas, J.W.W. Gram. S., Altrincham
Marle, S. *f.* English Prep. S., St. Servan
Petrie, P. High S., Croydon
Ridley, J. Truro Coll.
Scott, W. St. John's Coll., Brixton
Starnes, F.C. Milton Coll., Bexley Heath
[1]Waters, R.D. Horsmonden S.
White, G.S. Borden S., Sittingbourne
Williams, M. County S., Pontypridd
Wilson, R.E. Darlington Gram. S.

Bailey, P.D. Private tuition
Dykes, T. *d.* Private tuition
Gwynne, L.H. Cavendish Coll., South'pton
Haydon, W. *e.h.* St. Mary's Coll., Woolh'pton
Kistruck, W.G. Harlesden Coll.
Parkin, E.W. Wesley Coll., Sheffield
Taylor, J.M. St. John's Coll., Grimsargh
Trant, W.H. Kingsbridge Gram. S.
Whitaker, C. Dulwich Coll.

Addis, A.W. Horsmonden S.
Chapman, J.J. *d.* Foster's S., Sherborne
Cox, T.P. Private tuition
Cuddon, F.A.W. St. George's C., Weybridge
Dyer, B.S. Hastings Gram. S.
Harvey, H.E. St. Mary's C., Woolhampton
Jones, G. Kingsholme S., Weston-s.-Mare
Mallinson, C.S. Private tuition
Morton, C.N. *g.* Felix Coll., Lavender Hill
Reid, A. Waltham Coll.

[1]Allen, F.A.E. Private tuition
Babb, L. Tenby Intermediate S.
Benson, B.S. Laxton S., Oundle
Bryant, H.L. Malden Coll., New Malden
[1]Collin, W.H. *sh.* 562 Holloway Road, N.
Davies, F.R. Newbury Gram. S.
French, H.L. *al.* Esplanade H., Southsea
Graves, H. Froebel H., Stoke, Devonport
Griffiths, G. Private tuition
Lloyd, J.R. Polytechnic Interm. S., W.
Low, J.A. Cathedral Choir S., Edinburgh
Lupton, T.B. *bk.* Commercial Coll., York
Morgan, C.S. Hastings Gram. S.
Ortega, G.L. St. Joseph's Coll., Tooting
Peacock, W.H. Montrose Coll., Brixton Hill
Scott, P. *f.* Private tuition
Tregoning, V.H. Truro Coll.
Turuer, A. Oswestry Gram. S.
Uglow, G.A. Independent Coll., Taunton

Bond, J. *sh.* Ormskirk Gram. S.
Douthwaite, H.S. *e.* New Coll., Worthing
Dyer, J. Newbury Gram. S.
Fearnside, J.A. Archbishop Holgate's Gram. S., York
Freeman, A.J. Newbury Gram. S.
Hobson, W.G. Longsight Gram. S.
Hogue, R.J.W. Brinklea, Bournemouth
Kimbell, S.B. 13 Clapton Square, N.E
Knight, R.C. Newcastle Modern S.
Lewis, C.W. Brighton Coll.
Monk, J.B. St. George's Coll., Weybridge
Sharpe, S.U. Laxton S., Oundle
Stewart, W.H. Forest Hill Mid. Cl. S.
Watson, W.T. Kingsbridge Gram. S.
Williamson, M.S. Cathedral Choir S., Edinburgh

Agerup, J. Montrose Coll., Brixton Hill
Craven, A. Wesley Coll., Sheffield
Davies, G.B. Whitchurch Gram. S.
[1]Derry, P.F. Private tuition
Fletcher, R.D. Manchester Gram. S.
Hicklin, H. Gram. S., Bouruemouth
Hoult, H.L. Commercial Coll., York
Hutchinson, A.S.M. Preliminary Med. Coll., Ludgate Hill
Leigh, C. *d.* Commercial S., Southport
Rainforth, G.H. Lincoln Gram. S.
Roasio, F. St. Mary's Coll., Woolhampton
Thompson, C. Commercial Coll., York
Webb, W.R. *e.* Bethany House, Goudhurst

Bailey, R.J. Polytechnic Inter. S., W.
Baker, W. Bible Christian Coll., Shebbear
Chadwick, K.M. Private tuition
Cocker, A.B. *d.* Private tuition
Howatson, E.H. Private tuition
Hudson, J.C. Manchester Gram. S.
Johnson, F.E. *g.d.* Tollington Park Coll.
Johnston, D.M. Private tuition
Mayne, H.T. *d.* Forest Hill Middle Class S.
Montgomerie, H.G. Chigwell S.
Nockels, A.E. New Coll., Worthing
Russell, R.J. The Blue S., Wells
Webb, A.E. The Blue S., Wells
Woods, E.C. Private tuition

[1]Barnett, J.M. Gram. S., Southwell
Bauckham, H.C. Coopers' S., E.
Foxcroft, F.T. Harringay Park S.
Gale, W.J. *e.* Tetbury Coll. S.
Heather, R. South Pallant S., Chichester
Jarvis, J.T. Gram. S., Steyning
Mcguire, B. Ilkley Coll.
Moreton, W.S. Polytechnic Inter. S., W.

[1]Nailer, T.P. Horsmonden S.
Raincock, F.E. *d.* St. Catharine's S., Broxbourne

Blaxley, T.T. Private tuition
Brown, A. St. Joseph's Coll., Dumfries
Carey, O.L. Private tuition
Davies, M. Private tuition
Forbes, A. *d.* St. Joseph's Coll., Dumfries
Ford, H. Clyde House, Hereford
Hellier, A.W. Marylebone Hr. Gr. Tech. S.
Homer, E. Queen Mary's S., Walsall
Lever, W.H. Kingsholme S., Weston-s.-M.
Marcus, D.S. St. Paul's S., W.
Martin, F.D. Private tuition
Morgan, I.W. Lewisham Park S.
Nelson, G. Hutton Gram. S.
Pascall, S.C. Dudley House, Lee
Perry, J.J. St. George's Coll., Weybridge
Roberts, F.E. Private tuition
Souter, F.W. Northgate Gr. S., Chichester
Tremlett, A.E.J. Belmont, Exmouth

Bickerstaffe T.G. Gram. S., Bournemouth
[1]Brown, W.J. Tollington Park Coll.
[1]Church, C. Newbury Gram. S.
Davies, I.M. County Inter. S., Llandilo
Ferguson, G.E. Hutton Gram. S., Preston
Halton, H.W. Modern S., Eccles
Hearn, J.W. West Cliff H., Dawlish
Holden, E.J. Worthing Gram. S.
McCreanor, O. Cath. Coll. Inst., M'chester
Millett, W. Polytechnic Inter. S., W.
Richards, J. Truro Coll.
Simpson, E.J. Rye Gram. S.
[1]Tresidder, A.G. Penwerris Gr. S., Falm'th.
[1]White, G.H. Harringay Coll. S.

SECOND CLASS—3RD DIVISION.

Butler, R.A.H. Snettisham S.
Cockcroft, B.D. *d.* University S., Southport
Davies, T.H. Independent Coll., Taunton
Devaux, L. St. Joseph's Coll., Dumfries
Foster, C.S. *ge.* Private tuition
Latter, L.J. High S., Croydon
Pegler, G.B. Marlborough H., Sidcup
Pollock, N. Ilkley Coll.
Ternynck, G.A. *d.* St. George's C., Weybridge
Warburton, S. Uckfield Gram. S.
Wildsmith, S.P. St. Aloysius' Coll., Hornsey Lane
Woods, M.M. Private tuition

Arden, W.R.G. Hill Rise H., Richmond
Ball, L.P. Deal Coll.
Betts, E.R. Willesden High S.
Bomford, M.C. Homefield Prep. S., Sutton
[1]Bourne, P.F. Deal Coll.
Chapple, J.E. Montrose C., Brixton Hill
Davies, G.L. Llandyssul Inter. S.
Doughty, W.C. Kingsbridge Gram. S.
Ellis, W.T. Waterloo Coll., Liverpool
Foster, S. Private tuition
Layton, T.H. Darlington Gram. S.
Oliver, E.S. Private tuition
Swallow, R. Heaton Lodge, Bradley
Wells, J.A.R. St. Paul's S., W.
Wilson, G.F. Woodgrange H., Forest Gate

Davy, E.H. Private tuition
[1]Dinu, H.K. High S., Croydon
Duffield, E.W. Bp. Vesey's Gram. S., Sutton Coldfield
Halliwell, J.E. Private tuition
Leigh, P. Monton Day S., Eccles
Lewis, J.H. Private tuition
Long, H.G.D. Mauwood's Gr. S., Sandwich
Marchant, W. Sidcup Coll.
Marshall, H.F. Private tuition
Olver, J.H. *f.* Carlyon C., Chancery Lane
Orr, J.E. Private tuition
Teasdale, J. *c.g.* Harlesden Coll.
Thomas, G.F. Private tuition

Barnard, E.P. Gram. S., West Cowes
Campbell, S. Rutherford C., Newcastle-on-Tyne
Ellis, R.H. Oswestry Gram. S.
[1]Freeman, C.H. Newbury Gram. S.
Iredell, J.S. Manwood's Gr. S. Sandwich
Jackson, C.D'A. *e.* Borden S., Sittingbo'ne
Jenkins, J.H.M. Rye Gram. S.
Michell, N.B. Gram. S., Steyning
Renton, C.J. Tollington Park Coll.
Sharp, H.W. Leamington Coll., S.

Clear, C.G. E. Cornwall Coll., Liskeard
Cunningham, H. St. Joseph's C., Dumfries
[1]Harlow, W.W.R. Private tuition
Holman, F.G. Bible Christian C., Shebbear
Jones, O.S. Queen Mary's House, Walsall
Latham, R. Ormskirk Gram. S.
Neale, H.G.E. Bath Coll.
Whitehead, D. Waltham Coll.
Woodcock, S.R. Carter House, Deal

Archard, F.R. *al.* Warwick H., Southsea
[1]Atkins, I.M. Newbury Gram. S.
Evans, O.R.G. Uckfield Gram. S.
Gasson, T.J. Rye Gram. S.
Lerescbe, G. Ruthin Gram. S.
Lewis, E.S. *l.* Oswestry Gram. S.
O'Sullivan, D.T.B. Private tuition
Paynter, W.J. Truro Coll.
Soames, G. Private tuition
Thirlby, N. Elmhurst S., Kingston-on-T.

Baron, H.H. Wilmslow Gram. S.

Bonner, T. Llandyssul Inter. S.
Brockhurst, A.H. *d.* Q. Mary's H., Walsall
Harrington, R.G. 55 Chancery Lane
Heath, R.C. Gram. S., Steyning
[1]Kilroe, L. Ilkley Coll.
Matthews, H.E. Private tuition
Pellow, G.F. Bible Christian C., Shebbear
Ryall, M.W. Private tuition
Sanders, W. Devon County S., W. Buckland
Spencer, H. Horsmonden S.
Turner, H.S. King's Coll. S., Wimbledon
Westrope, F.G. Manwood's Gram. S., Sandwich

Adams, J.H. Hastings Gram. S.
Collett, H.E. Private tuition
Corke, F. Bethany House, Goudhurst
Drever, J.D. Private tuition
Freeman, L.W. Stratford H., Romford Rd.
Oakley, G.H. Horsmonden School
Richardson, A.H.S. Private tuition
Squires, F. Woodgrange H., Forest Gate

Barry O'Brien, H. Private tuition
Bradnam, E.S. Hastings Gram. S.
Procter, W. Modern S., Doncaster
Robson, R. Friends' S., Gt. Ayton
Sargent, V. FitzG. Private tuition
Tresidder, J. Penwerris Gr. S., Falmouth
Vaughan, W. St. Bonaventure's Gr. S., E.

Brayton, A. Cambridge H., Wigan
Bridger, R.D. I. of Wight Coll., Ryde
Chapman, A.C. *d.* Tetbury Coll. S.
Clarke, A. Coopers' S., E.
Dixon, C.G. Private tuition
Fallowfield, E. *ch.* Hutton Gram. S.
[1]Harris, W.D. Heston H., Hounslow
Iles, A.J.H. Private tuition
Jack, W.G. Private tuition
Morgan, D.R. Hampton Gram. S., Glasbury-on-Wye
Spurgeon, H.J.E. Woodgrange H., Forest Gate
Thomas, H.E. Cavendish C., Southampt'n

Benians, P.S. Bethany H., Goudhurst
Berry, L.H. Oxford H., Brighton
Carus-Wilson, C.W. Oxford H., Sutherland Avenue, W.
Collins, C.A. Commercial S., Wood Green
Davies, J.J. Llandyssul, Inter. S.
Dove, C.M. St. George's Coll., Weybridge
Drabble, E.P. Private tuition
Henley, E. Sidcup Coll.
Hughesdon, F.W. Tollington Park Coll.
Laithwaite, J. St. Joseph's Coll., Dumfries
Mayston, J.H. *al.* Truro Coll.
Pittaway, G. Halesowen Gram. S.
Robinson, J.S. King James I. Gr. S., Bp. Auckland
Speechley, W.C. Carter House, Deal
Whateley, B.A.W. Private tuition

Cocker, H.J. Private tuition
Hutchesson, C.leM. New Hall C., Sutton Coldfield
Jones, W.A. Rutherford C., Newcastle-on-Tyne
Laycock, J.H. Commercial Coll., York
Scott, S.E. Newbury Gram. S.
Skerry, G.R.K. 27 Chancery Lane
Watkins, H.T. Private tuition

Ash, H.D. *gr.* Haileybury Coll.
Dollie, M.O. Private tuition
Hallett, R.J. Foster's S., Sherborne
Harris, T.H.V. Uckfield Gram. S.
Lewis, D. St. Mary's C., Woolhampton
Liam (Nai) Private tuition
Malby, J.M. Deal Coll.
Marsland, D.R. Homefield Prep. S., Sutton
Poole, R.H. High S., Workington
Reed, H.R.A. Cathcart C., Cathcart Hill, N.
Robinson, G.T. Hall Gate S., Doncaster

Barnes, L. Middle Cl. S., High Wycombe
Jones, E.R. Oswestry Gram. S.
Lithgow, T. Belgrave House, Farnboro'
Plumley, C.G. Private tuition
Spry, J.H.S. Romford Gram. S.

Butler, P. Private tuition
Easton, E.G. Bethany House, Goudhurst
Jones, G.H. Ruthin Gram. S.
Kendall, F.W. Truro Coll.
Laycock, J. Henry Smith S., Hartlepool
Leetham, H.M. Thanet Coll., Margate
Nazer, A.R. Manwood's Gr. S., Sandwich
Neal, F.D. Prelim. Med. C., Ludgate Hill
Roberts, G.B. Private tuition
Truscott, H.S. Truro Coll.
Wakley, B.J. Private tuition
Wilson, R. Coll. S., Bowes Park

Grafton, P.J. St. Philip's Gr. S., Edgbaston
Greening, T. Hall Gate S., Doncaster
Lamb, J.H.D.B. Onslow Hall, Richmond
Patterson, W. Newcastle Modern S.
Peace, P.C. Private tuition
Pridgeon, H. St. Joseph's Coll., Dumfries
Sandercock, A. Sidcup Coll.

Anstey, E. Elmhurst S., Kingston-on-T.
Davies, J.W. Gram. S., Southwell
Gray, W. Gram. S., Steyning
Higgs, F. 562 Holloway Rd., N.
Hulton, C.B. Tollington Park Coll.
Robinson, A.L. Dover Coll.
Scotland, W.R. Newcastle Modern S.

BOYS, SECOND CLASS—*Continued.*

Stordy, G. Hutton Gram. S., Preston
[1]Walton, H.F. Jesmond Coll., Newcastle-on-T.
Watkins, W. County S., Pontypridd

Arnall, S.J. Hutton Gram. S., Preston
[1]Balls, H.G. Manor House Coll., Hastings
Bateman, H. Magdalen Coll. S., Wainfleet
Besley, C.H. Kingsholme S., Weston-s.-M.
Caine, H.M. Private tuition
Coles, A. St. George's Coll., Weybridge
De Cartaret, H.J. Oakwood House, Jersey
Lynch, P.E. Henry Smith S., Hartlepool
Martin, F.W. St. John's Coll., Brixton
Sanderson, H.E. Lewisham Park S.
Walsh, A.S. Hastings Gram. S.

[1]Barley, P.C. Belmore House, Cheltenham
Beaumont, C. The Academy, Wakefield
Chapman, A.G. Tetbury Coll. S.
Coalbank, R.M. Private tuition
Condy, P.W. Edward VI. Gram. S., Totnes
Coombes, A.T. Mutley Gr. S., Plymouth
Crowe, G.L. Market Bosworth Gram. S.
Dix, R.G. St. Joseph's Coll., Tooting
Feeny, G.A. St. George's Coll., Weybridge
Greatorex, H.A. St. Catharine's S., Broxbourne
Leonard, S.U. Borden S., Sittingbourne
Phillips, F.G. Hastings Grammar S.
Retallack, J.A. Truro Coll.

Baker, C.S.H. Univ. Coll. S., Gower St.
Bloye, W.C. Frobel H., Stoke, Devonport
Bruce, G.A. Fortescue Coll., Radstock
Cowdy, W. St. John's Coll., Brixton
Crawshaw, R.W. Private tuition
Harvey, F. St. Mary's Coll., Woolhampton
[1]St. JohnFirth, W.H. Tollington Park Coll.

Bellasis, J.H. St. Joseph's Coll., Tooting
Dobson, G.H. Newbury Gram. S.
Fritche, G.E. Brookweir, Gunnersbury
Gallimore, H.B. Wesley Coll., Sheffield
Richardson, B. Dudley Middle Class S.
Weir, I.J. Private tuition

Bennett, W.H. The Blue S., Wells
Bressey, C.E. Private tuition
Cooksley, W.H. County S., Pontypridd
Holman, E. Henry Smith S., Hartlepool
[1]Richards, W. Prelim. Med. Coll., Ludgate Hill
Saunders, D.P. Uckfield Gram. S.
[1]Tyler, F.E. Douglas S., Cheltenham

Booth, R. Hutton Gram. S., Prestou
Dain, A.E. Bp. Vesey's Gram. S., Sutton Coldfield
Kavanagh, L.P. St. George's C., Weybridge
Lewis, D.L. Llandyssul Inter. S.
Richards, A. Newbury Gram. S.
Spurrell, F.C. St. John's Coll., Brixtou
Summers, M.H. Private tuition
Walker, E.H. Holly Bank S., Manchester

Brown, R.B. Newcastle Modern S.
[1]Green, G. Horsmonden S.
Hyde, W. St. John's Coll., Grimsargh
Pierron, G. Borden S., Sittingbourne
Vaughan, C.E. Oswestry Gram. S.
Vosper, F. Dunheved Coll., Launceston

Bowkett, E. Private tuition
Breach, J.T. Gram. S., Steyning
Brooking, F.H. Private tuition
Brown, W.A.D. Brighton Gram. S.
Hargreaves T.A. Newton H., Rochdale
[1]Morris, J.B. Friern Barnet High S.

Butler, L.J. Hastings Gram. S.
Coleman, G. St. John's Coll., Brixton
Griffin, P. *s.e.g.* Manor H. Coll., Hastings
Gunstone, P.J. Stratford H., Romford Rd.
Montgomery, C. Ilkley Coll.
Tate, E. Newcastle Modern S.
Walker, H.W. Commercial Coll., York

Frias, F. St. George's Coll., Weybridge
Harvey, L. St. Mary's Coll., Woolhampton
Klang, Mom Chow Eastbourne Coll.
Mercy, R.T. Sandwich S.
Newton, P.G. Whitchurch Gram. S., Salop
Perkins, R.B. Private tuition
Swan, J. Upper Hornsey Rise High S.
Tilly, W.M. Old Elvet S., Durham

Butler, J.W. Wirksworth Gram. S.
Edwards, E. Gelligaer County S.
Fuller, A.N. University S., Reigate
Hatch, E.A. Bethany House, Goudhurst
Murison, S.L. Manor H. Coll., Hastings

Marner, F.C. St. Aloysius C., Hornsey Lane
Lyon, E.A. Cathcart C., Cathcart Hill, N.
Stevenson, G.P. Ceutral Hill Coll., S.E.

Covell, T. Thanet Coll., Margate
Davies, A.L. High S., Croydon
Edwards, F.D. Balham S.
Elliot, N. Ilkley Coll.
Knott, W.W. 27 Water Street, Rhyl
Mason, B.T. Pembroke Coll., Harrogate

THIRD CLASS.—1ST DIVISION.

Hrauda, C.F. *g.a.al.f.ge.* Tollington Pk. C.
[1]Thomas, H. Kingsholme S., Weston-s.-M.
[2]Hopkins, A.W. *d.* Polytechnic Tech. S.

[2]Sinclair, M. *d.* Wykeham House, Clifton
[2]Becker, H.W. *a.* Tollington Park Coll.
[2]Page, W. *d.* Taunton's Trade S., Southampton
[1]Sans, E. *f.* St. Charles's C., N. Kensington
[2]Chambers, N.G. K. James I. S., Bp. Auckland
Delonnoy, C. *f.ge.* High S., Croydon
[2]Clapperton, F.J. Epsom Coll.
[2]Kinsley, E.A. *a.ch.* Polytechnic Tech. S.

[2]Joyce, A.H. *a.d.* Polytechnic Tech. S.
[2]Oaks, A. *d.* Polytechnic Tech. S.
[2]Caton, J.W. *s.* Wellingborough Gram. S.
[2]Howell, G.J. *d.* Polytechnic Tech. S.
[2]Willmoth, E. *d.* Hutton Gram. S.
[2]Orezzoli, D. *d.* Univ. S., Southport

[2]Bevan, R.J. *d.* Raleigh Coll., Brixton
[2]Pedrick, P.V.G. *g.ch.* Bible Christian Coll., Shebbear
[2]Fenoulket, A.E.C. Epsom Coll.
[2]Davies, R.D. Epsom Coll.
[2]Miller, H.C. *g.* Bible Christian Coll., Shebbear
[1]Ellis, V.S. Ruthin Gram. S.
[1]Curtis, C.H.G. *d.* Hornsey Gram. S.
[1]Ingouville, J.G. *f. sp.* Oxenford H., Jersey
[2]Parry, A.E. *d.* Private tuition
[2]Shearer, E. *d.* Taunton's Trade S., Southampton
[2]Cantou, S.A. Private tuition
[2]Ashbee, H. Rye Gram. S.
[2]Craggs, H.J. Thanet Coll.

[2]Boyd, J.E.M. Grosvenor S., Bath
[2]Evans, E. Oswestry Gram. S.
[2]Saggers, W. Sidcup Coll
[2]Turnbull, D.O. Victoria Coll., Jersey.

[2]DeCarle, S.E. Tollington Park Coll.
Delmay, F.J. *e. g. f.* Montrose Coll., Brixton Hill
[2]Price, L.E. *el.* Bourne Coll., Birmingham
[2]Stead, L.C. *al.* Hutton Gram. S., Preston
[2]Pearson, R.W. Oundle S.
Smith, J.F. *f.* Pembroke Coll., Harrogate
Brown, A.E. *e. g. a. d. sh.* Hr. Grade S., Torquay
[2]Targett, F.W. *g.* Private tuition

[1]Tinson, A. Marylebone Hr. Gr. Tech. S.

[1]Lane, W.C.N. *d.* Hulme Gr. S., M'chester
[2]Oppenheim, J. Tollington Park Coll.
[2]Peck, E.S. *d.* Eye Grammar S.
[2]Willis, F. Taunton's TradeS., Southam'ton

[1]Brunessaux, C.W. Craven Park Boys' Coll., N.W.
[2]Woolnough, G.N. Hornsey Gram. S.

[2]Alkin, J.E. Hilton House, Atherstone
[2]Cooke, R.S. Private tuition
LeBrun, D.R. *f.* Bible Christian Coll., Shebbear
[2]Orrell, J. University S., Southport

[2]Ashby, M.W. *d.* St. Paul's S., W.
Hughes, A. *gr.* Oswestry Gram. S.
Jones, J.S. *e. al. f. l.* Wirksworth Gr. S.
[2]Kemp, E. Taunton's TradeS., Southamp'n
[2]Wesley, A.R. Seaford Coll.

Hutchings, H.W. *h.g.a.eu.* Tollington Pk. C.
[2]Shipham, A.C.L. Truro Coll.
[2]Wise, D. Manchester Gram. S.

[1]Aviss, W.S. Borden S., Sittingbourne
[2]Holmested, H.S. Private tuition
[2]Rathfelder, O.E. *ge.* Wyllies, Cuckfield

[2]Ratcliffe, T.J. *sh.* Shrewsbury Coll.
Richards, J.W. *e.al.d.* Hr. Grade S., Torquay
[2]Taylor, M.B. Private tuition
[2]Weeden, A.J. Tollington Park Coll.

[2]Chambers, L.F. Seaford Coll.
Cousius, R. *a.al.eu.* Cath. C. Inst., M'chester
[2]Johnson, H. Gram. S., Southwell
[2]White, H. Taunton's Trade S., S'thampton

[2]Booth, W.A. University S., Southport
[2]Boycott, C.H.M. *e.* Worthing Gram. S.
[2]Entwistle, G. Ruthin Gram. S.
[2]Mazza, M.A. *f.i.* St. Joseph's C., Tooting
[2]Pearce, W.H. Foster's S., Sherborne

[1]How, T.B.A. Dartford Gram. S.
Newson, F.J. *al.d.* St. John's Hospital S., Exeter

Adamson, R.B. *g.a.al.* Tollington Park C.
[2]Boultwood, B.G. Elm H., Wareham
[2]Brannon, B.R. Woodgrange H., Forest Gate
[2]Fuller, F.H. Gram. S., Steyning
Gilfillan, A.McA. *h.g.eu.* Tollington Park C.
Parker, A.T. *a.al.d.* Polytechnic Inter. S.
[2]Prince, R.L. The Academy, Wakefield

[2]Ford, C. Tollington Park Coll.
[2]James, E.C. St. Paul's S., W.
Williams, F. *e.a.al.* Truro Coll.
Yates, S.A. *s.g.a.al.l.* Lady Hawkins' S., Kington

[2]Carlaw, J.McK. Portsmouth Gram. S.
[2]Lewis, L. *g.d.* County Inter. S., Llandilo
[2]Mayers, S.R. Malden C., New Malden
[2]Scott, A.M.C. *e.* St. Catherine's C., Langland Bay
Taylor, E. *a.al.* Cath. Coll. Inst., M'chester

Norman, S.P. *e.al.d.* Hr. Grade S., Torquay
[2]Squire, E. Tauntou's Trade S., South'pton
Wrightsou, H.J. *a.al.eu.d.* Polytechnic Inter. S.

[2]Baldwin, W.B. Oundle S.
[2]Hutton, S. *d.* Waltham Coll.
[2]Law, W. *d.* Belle Vue House, Greenwich
[2]Marsden, H.L. Wesley Coll., Sheffield

[2]D'Alton, F. St. Joseph's C., Dumfries
[2]Elsworthy, A.G. Farnham Gram. S.
Roussillon, J. St. Joseph's C., Dumfries
[2]Schmith, C.J. *al.* Marylebone Hr. Gr. S.
[2]Widdas, C. K. James I. S., Bp. Auckland

O'Malley, M.J. *e.a.eu.l.* St. George's C., Weybridge
Pearce, J. *a.al.d.* Truro Coll.
Titherley, F.L. *d.sh.* St. John's Hosp. S., Exeter
[2]Woolams, J.E. Q. Mary's H., Walsall

[2]Baxter, A.W. Brunswick H., Windsor
[2]Broadbent, P. University S., Southport
[2]Calland, O.A. Private tuition
DeBurgh, W.R. *a.al.d.* Comm. C., York
[2]Everest, H.B. Shrewsbury Coll.
[2]Teek, A.H. The Blue S., Wells

Druiff, J. *e.al.eu.ge.* Polytechnic Interm. S.
[2]Hibbert, E.B. *d.* Gram. S., Southwell
[2]Jones, J.H. Private tuition
[2]Scorer, E.S. Private tuition
[2]Staneombe, A.S. Staddon H., Plymouth
Stanley, E.A. *e.h.g.al.* Gram. S., Mirfield

[2]Bourke, A.W. St. George's C., Weybridge
[2]Bunnell, C.B. Raleigh Coll., Brixton
[2]Cockell, C.L. *d.* St. Paul's S., W.
Court, W.J. *h.g.a.d.* Manwood's Gram. S., Sandwich
Cox, A.S. *a.d.* Polytechnic Interm. S.
[2]Drown, A.E. *d.* Private tuition
[2]Neate, G.W. Newbury Gram. S.
Sparkes, B.J. *g.* Taunton's Trade S., Southampton
Veall, J.P. *g.a.al.d.* Truro Coll.

Burr, F.M. *h* Tollington Park Coll.
[2]Hollingworth, F. Eton H., Hull
Marten, H. *e.eu.ge.* Polytechnic Interm. S.
[2]Read, H.W. St. Paul's S., W.
[2]Thomas, A.J.O. Lancaster C., W. Norwood
Virgo, B.L. Brighton Modern S.
[2]Yeomans, H. Clyde House, Hereford

[2]Griffith, J. M. Deal Coll.
[2]Overton, P.J. Lymn Gram. S.
[2]Palmer, F.N. *d.* Collingwood Coll., Lee
[1]Peaty, C.R. *d.* Private tuition
[2]Tiptaft, W.J.N. Richmond H., Handsworth.
Voisey, P.D. *d.sh.* St. John's Hosp., Exeter

Carringtou, H.V. *h.a.* South Hackney Coll., N.E.
Dansage, A.A. *al.d.* Brighton Modern S.
[1]Hall H.W. Friern Barnet H. S.
[2]Hammond, P.E. Fartown Gram. S., Huddersfield
[2]Hankey, G.T. Manwood's Gr. S., Sandwich
Hochstrasser, H. *g.d.* Polytechnic Inter. S.
Levy, A. *d.* Queen's Walk S., Nottingham
[2]Mayo, F. Q. Mary's H., Walsall
[2]Monro, G.H. Dover Coll.
White, B.J. *g.* Tottenham Coll. S.

[2]Hawes, F.H. Friern Barnet High S.
Hooker, A. *a.* Sandwich S.
[2]Jordau, M.A. *e.* Univ. Chambers, Pontardawe
[2]Lancaster, C.W. University S., Southport
[2]Mays, H.R. Private tuition
Michelmore, A.J. *e.d.* Montrose Coll., Brixton Hill
[2]Norman, F. *d.* Private tuition
[2]Thompson, G.W. Castle Hill S., Ealing

[2]Campbell, G.L. *d.* University S., Southport
[2]Carveth, W.J.H. Truro Coll.
Dyson, L. *g.a.al.* Gram. S., Mirfield
Jenniugs, E.H. *e.a.al.ge.* Coopers' S., E.
[2]Meek, S. Cathedral Choir S., Edinburgh
Morris, I.J. *g.a.* Polytechnic Inter. S.
Muruaghan, A. Tauuton Trades S., Southampton
[2]Osborn, F. Brunswick H., Windsor
[2]Piggott, E.A. South Pk. C., Wimbledon
Powell, C. *h.g.a.* Comm. Coll., York
[2]Rollin, H. Newcastle Modern S

David, L. *e.a.l.* St. George's C., Weybridge
[2]Davies, F.W. *sh.* Lewisham Park S.
Davis, J. *a.* Tollington Park Coll.
[2]Dowling D. St. Joseph's Coll., Tooting
Forbes, E.M. *d.* Kingsbridge Gram. S.
Franklin, T.T. Dagmar House, Hatfield
[1]French, F.E. Esplanade House, Southsea
[2]Gleiser, A. St. Joseph's Coll., Tooting
Hinge, W. *a.al.* University S., Rochester
Kitto, J.L. *al.d.* Truro Coll.
Magrath, J. *al.* Cath. C. Inst., M'chester
Morrison, E.W. *h.al.eu.* Whalley Range C.S.
[2]Pratt, R.A. Winchester H., Gt. Yrm'th
Ramshaw, B.W. *a.al.* Taunton's Trade S., Southampton
Roberts, G.A. *a.* Finsbury Park Coll.
Small, H.C. *a.al.d.* Coopers' S., E.
Unsworth, J. St. Joseph's Coll., Dumfries

[2]Baker, J.A.A. Up. Hornsey Rise S.
Bowley, J.W. *g.a.al.* High Pavement S., Nottingham
Day, W.J. *e.a.al.* Coopers' S., E.
[2]Drysdale, T.M. Kurnella, Bournemouth

Engelke, C. Polytechnic Inter. S.
[2]Lewis, D.J. Gram. S., Newcastle Emlyn
[2]Lewis, G.A. Private tuition
[2]Lloyd, T.P. Llaudyssul Inter. S.
Rea, J.W.H. *a.d.* Montrose C., Brixton Hill
Schaefer, E.C. *e.f.d.* Hornsey Gram. S.
[2]Smith, A.W. Old Elvet S., Durham
[2]Turnbull, M. Taunton's Trade S., Southampton

Benning, A.E.L. *a.l.d.* Stoke Newington Coll. S.
[2]Bloxsome, A.H. Private tuition
[2]Cheers, H.A. St. Paul's S., W.
Dhonan, P.C. *a.al.eu.* Coopers' S., E.
[1]Godber, J. Coll. Gram. S., Sonthwell
[2]Morgan, E.E. St. Catherine's Coll., Langland Bay
Mullan, J. St. Joseph's Coll., Dumfries
Swainson, W.T. *e.* The Blue S., Wells
Taylor, W. *a.* Cath. Coll. Inst., M'chester
[2]Wright, R.A. Comm. Coll., York

[2]Bartholomew, E.E. Holmewood S., Up. Tulse Hill
Bates, A. *e.ge.* Coopers' S., E.
Binks, A. *a.al.eu.* Fartown Gram. S., Huddersfield
[2]Blazey, L.R. *sh.* Belle Vue H., Greenw'h
Bleck, W.E. *d.* Raleigh Coll., Brixton
[2]Charlick, A.B. Hutton Gram. S.
[2]Dover, R.W. Tollington Park Coll.
[2]Foster, J.R. St. Paul's S., W.
Gregory, A.J. *e.g.a.* Hastings Gram. S.
[2]Ladler, J.W. Milton Coll., Bexley Heath
[2]Leonard, A.H.W. *d.* Snettisham S.
Ramsden, W.S. *e.a.al.* Gram. S., Mirfield
[2]Thomas, J.H. Oswestry Gram. S.
[2]Willis Bund, H.D.H. Private tuition
Woodin, E. *s.a.* Laxton S., Oundle

[2]Andrews, J.K. Seaford Coll.
Coleman, H.W. Grosmont, Brighton
Goodmau, E. *a.al.d.* Queen's Walk S., Nottingham
Harries, J.R. *e.al.* The Cedars S., Ealing
Henshaw, H. *a.* Witton Gr. S., Northwich
Hitchcock, H.J. *al.d.* Polytechnic Inter. S.
[2]Hodge, W.L. 38 Tavistock Place, Plym'th
Hopkinson, H.J. *a.al.* Polytechnic Tech. S.
Jarrett, H.O. University S., Southport
Jones, T.S. *g.a.al.* Ruthin Gram. S.
Lacey, O.B. *g.* Ruthin Gram. S.
[2]Montgomery, T. Ilkley Coll.
Vercoe, C.R. *g.a.* Higher Grade S., Torquay
Westby, T. *a.al.* Cath. Coll. Inst., M'chester

Atkinson, P.J. Taunton's Trade S., Southampton
[2]Baker, W.A. Hastings Gram. S.
Booker, A.T.B. *e.al.d.* Univ. S., Rochester
Edwards, R.W. *al.* Thanet Coll.
Hodgson, F. *al.* Marylebone Hr. Gr. Tech. S.
[2]Roden, T. St. Joseph's Coll., Dumfries
Scates, J.E. Ruthin Gram. S.
Tomlinson, N. *e.a.al.* Wirksworth Gram. S.
Vale, F.W. *h.d.* Commercial Coll., York
[2]Vicary, T.H. Independent Coll., Taunton
[2]Wight, W.B. Private tuition

[2]Adey, R.H.H. Newbury Gram. S.
Davis, G.B. *d.al.* University S., Southport
[2]Fairclough, J.B. Oswestry Gram. S.
Gill, J. *a.d.* Cornwall Coll., Liskeard
[2]Goodland, E.S. Independent C., Taunton
Grundy, V. *a.al.* Gram. S., Mirfield
[2]Hutley, F. Uckfield Gram. S.
Moreton, A. *a.* Witton Gr. S., Northwich
[2]Pearce, W.T. Dartford Gram. S.
[2]Pick, B. Sherborne S.
Reid, E. *e.a.* Coopers' S., E.
[2]Shaw, J.H.J. *d.* Private tuition
[2]Tebbutt, E.S. Seaford Coll.
Travis, B. *a.al.d.* University S., Southport
[2]Waller, R.D. St. Catharine's S., Broxbourne
Weston, G.F. *s.al.* Rye Gram. S.
Wilcox, H.M. *a.al.d.* Modern S., E. Grinstead
[2]Willmot, A.S. Tollington Park Coll.
[2]Windsor, F.C. St. Aloysius Coll., Hornsey Lane

[2]Barr, D. Taunton's Trade S., Southampton
Biddick, J.H. *e.h.d.* St. John's C., Brixton
[2]Brewer, C.J.A.H. Balham S.
Clarke, G. *d.* St. Joseph's Coll., Dumfries
Delarue, H.A. Bethany House, Goudhurst
[2]Gillchrest, L.R. Richmond Hill S., Surrey
Greig, W.T. *e.* Malden Coll., New Malden
Hosking, H.A. Truro Coll.
Johnsou, B.F. *e.a.al.* Polytechnic Inter. S.
Loraine, S. *e.al.* Cathedral Choir S., Edinb.
Morris, G.E. *a.e.* Horsmonden S.
Price, J.M. *al.* Ruthin Gram. S.
[1]Smith, G.F. Rutherford C., Newcastle-o.-T.
[2]Walmsley, W.F. Tollington Park Coll.
[2]Williams, C.O.O. Cheltenham Modern S.

Berry, J. St. Joseph's Coll., Dumfries
[2]Chapman, H.S. Manwood's Gr. S., S'dwich
Chick, S.T. *e.h.a.* College House, Braintree
[2]Clayton T.G. Irvine House, Derby
[2]Dumbrill, G.R. *e.* Private tuition
[2]Gleed, P.F. Mercers' S., E.C.
Hooper, R. *g.* New Cross Coll. S.
Mercer, R. *e.g.a.* St. Mary's C., Woolh'pton
[2]Munday, A. *d.* The Coll., Hendon
[2]Richardson, C. Taunton's Trade S., Southampton

BOYS, THIRD CLASS—*Continued.*

²Ruddell, F.J. Snettisham S.
²Scarlett, F.J. Uckfield Gram. S.
Torkington, A. *a.* Cath. C. Inst., M'chester
²Traynor, P. Cath. Coll. Inst., M'chester
Webber, G. *a.d.* Polytechnic Inter. S.

Aitken, G. *d.* Cathedral Choir S., Edinb.
Barry, L. *a.* Cath. Coll. Inst., Manchester
Clarke, F.C. *e.a.al.d.* Coopers' S., E.
²Darbey, A. Gram. S., Bournemouth
²Ford, K.J. Taplow Gram. S.
¹Gibson, J.E.B. Private tuition
Hallifax, J.G. *d.* Taunton's Trade S., Southampton
²Jameson, G.U. Eastbourne Coll.
King, C.J. Tollington Park Coll.
Laumann, T.H. *a.al.* Coopers' S., E.
²Walmsley, H.J. St. Aloysius C., Hornsey

Axe, F. *a.* Wirksworth Gram. S.
Bower, J.G. *e.* Thanet Coll., Margate
²Ellerton, A.S. St. Ethelbert's S., H'pstead
Green, G.T. Tollington Park Coll.
²Harrison, A.B. Tollington Park Coll.
Herlan, A. *a.d.* Polytechnic Tech. S.
Hunt, E.C. *a.al.d.* Queen's Walk S., Nottingham
McDonald, A.W. *e.al.* TheCedarsS., Ealing
Michelmore, H.J. *a.al.* Kingsbridge Gr. S.
²Neave, C. Gram.S., Willesden
Pumfrey, R.L. *d.* MontroseC., BrixtonHill
Redfern, F.H. *a.* Whalley Range Coll. S.
²Vassila, A. High S., Croydon
²Willcox, G.C.M. The Blue S., Wells

Bowner, G. *a.* Wirksworth Gram. S.
Fortune, W. *al.* OsborneH.S., W. Hartlepool
¹Heath, G.C. Sandwich S.
²Jones, F.V. Seaford Coll.
Keen, T.S. *h.a.al.* BibleChrist. C., Shebbear
²Millard, T. Gram. S., Willesden
²Musgrove, L.M. Holmewood S., Upper Tulse Hill
Poole, G.M. *a.* Witton Gram. S., Northwich
Smith, W.E. *e.a.* Polytechnic Technical S.
¹Tanton, J.H. West Cliff S., Ramsgate
Trenor, F. *g.* Cath. Coll. Inst., Manchester
²Trude, H.J. Private tuition
Wilsou, F. Catholic Coll. Inst., Manchester

Anderson, J.W. *g.a.* E. Cornwall Coll., Liskeard
²Anderson, T.W. Belvoir Road S., Bristol
Bevan, H.C. *a.* County S., Pontypridd
Bone, W. *e.g.a.d.* Polytechnic Inter. S.
²Bourke, W.C. St. Joseph's Coll., Tooting
Camblos, C. *d.* Park Villa S., Dorrington
Chick, L.T. *e.* College House, Braintree
Cox, H.L. *e.* Coopers' S., E.
²Dowding, C.E. Borden S., Sittingbourne
Egerton, H. *al.* Polytechnic Inter. S.
Eggleston, P.F. *al.* Queen's Walk S., Nottingham
²Gault, C.H. Taunton'sTradeS., South'pton
²Gaunt, B. St. John's Coll., Grimsargh
Greig, K.C. *a.al.* Malden Coll., New Malden
²Kennard, F.E. Private tuition
²Lockwood, S.S. Heaton Lodge, Bradley
Luke, L.A. Cathedral Choir S., Edinburgh
Smith, W. *a.al.d.* High Pavement S., Nottingham
²Spurgin, H. Sidcup Coll.
Thompson, R. Argyle House, Sunderland
²Treweeke, F. PenwerrisGram.S., Falmouth
Walters, H. *a.al.* Cath. Coll. Inst., M'chester
²Wellings, G. Waltham Coll.
Windle, P. Catholic Coll. Inst., Manchester
²Wright, J. Hall Gate S., Doucaster

Briggs, A. Tollington Park Coll.
Douglas, A. *g.* Laxton S., Ouudle
Harvey, G.G.L. Truro Coll.
Hunt, H. *a.* University S., Southport
Jones, N. University S., Southport
Kirkham, E. *a.eu.* Hutton Gram. S.
²Pritchard, M.R. St. George'sC., Weybridge
Sayers, W.H. Gram. S., Bournemouth
Shore, C.G. *e.d.* Uckfield Gram. S.
Smith, C. *al.* St. Mary'sColl., Woolhampton
Stephens, J.H. *a.d.* Truro Coll.

Alty, J.J. *d.* University S., Southport
²Butler, F. Tetbury Coll. S.
²Christie, W.T. Private tuition
Cooper, D.A. University S., Southport
²Cross, F.H. Independent Coll., Taunton
Criswell, W. *a.* Modern S., E. Grinstead
²Harding, H.W. St. George's C., Weybridge
²Hughes, D.F. Gram. andColl.S., Carnarvon
Jacob, F.W.B. *l.* Homefield Prep.S., Sutton
Jones, W. *a.* Polytechnic Inter. S.
²Joslin, G.A. OxfordH., SutherlandAv., W.
Kellaway, E.H. *e.al.* Taunton's Trade S., Southampton
²Lascelles, J.C. Brighton Coll.
Lees, J.D. *a.* Windsor House, Saltash
Luxton, J.H. *e.d.* Gram. S., Launceston
²Millard, H.J. Bible ChristianC., Shebbear
Quicke, H.T. *l.* Truro Coll. S.
Rowe, H.J. *e.d.* Truro Coll.
Streather, F.W. *a.* Laxton S., Oundle

Allward, F.L. *h.* Tollington Park Coll.
²Arneil, H.M. Southampton Boys' Coll.
Banbury, H. *h.* BibleChristianC., Shebbear
Bedale, A.L. Wilmslow Gram. S.
Braud, F.F. Uckfield Gram. S.
Bruce, J. *d.* Sandyford Academy, Newcastle-o.-T.
Campion, H.R. *d.* Queen Mary's High S., Walsall
Carpendale, T.M. *a.al.eu.* Oswestry Gr. S.
Chubb, J.F. *s.eu.* St. John's Choir S., St. Leonards
Coppin, A. *a.d.* Coopers' S., E.
²Evans, B.G. Horsmonden S.
Green, A.J. *e.a.ge.* Coopers' S., E.
Kirby, A.G. *a.* York Manor S.
Marsh, W.L. Uckfield Coll., Brighton
McLoughlin, C. St. Joseph's C., Dumfries
Meredith, W.M. *a.* Lady Hawkins's S., Kington
Musto, A.A. *a.al.d.* Coopers' S., E.
Nancarrow, R.R. Truro Coll.
Nayler, J.N. *d.* Rochdale High S.
Price, E. *a.* Dagmar House, Hatfield
Richards, J.G. *a.* Polytechnic Technical S.
¹Smith, G.R. Modern S., South Shields
Tearle, G.S. Park Villa S., Dorrington
²Vaughan, W.W. Gram. S., Bournemouth
Walton, W. Hutton Gram. S., Preston
²Woolward, J.H. North Grove S., Southsea

Bucknell, A.T. Polytechnic Technical S.
Greenwood, A. *a.* Heaton Lodge, Bradley
Griffiths, H. *d.* Halesowen Gram. S.
Haworth, E. *al.* Almondbury Gram. S.
Healey, J.V. *al.d.* Queen's Walk S., Nottingham
Horn, J.T. *e.* Belvedere, Hayward's Heath
Jones, H. *a.* Gram. and Coll. S., Carnarvon
Monk, W.J. *g.* Coopers' S., E.
²Nicholls, E. Ruthin Gram. S.
O'Neill, H. *a.* St. Philip's Gr. S., Edgbaston
Petrie, E. *al.* High S., Croydon
Smith, G.C.F. *d.* Shrewsbury Coll.
Snell, G.W. Tollington Park Coll.
West, H.J. *a.d.* Hornsey Gram. S.
Wright, R. *e.* Uckfield Gram. S.

Billing, C.F. Tollington Park Coll.
Chaundler, J.H. *e.g.* The Cedars S., Ealing
²Coles. F.W. The Blue S., Wells
Crawshaw, W. *a.al.* Gram. S., Mirfield
Dobson, H.O. *e.* Carter House, Deal
Grant, H.O. *g.a.* Tollington Park Coll.
Harwood, A.R. *al.* Queen's Walk S., Nottingham
Hislop, J.D. *d.* Cathedral Choir S., Edinburgh
²Hood, H.E. Grammar S., Willesden
²Jameson, C.N. Snettisham S.
²Kent, J.C. Shrewsbury Coll.
Maggs, I.J. *e.* Bible Christian C., Shebbear
Mawdesley, C. *a.* BeaconfieldC., Plymouth
Scarborough, M.J.B. *g.d.* St. Philip's Gram. S., Edgbaston
Stainton, R. *ge.* HillmartinC., CamdenRd.
Williams, U. *a.al.* County S., Pontypridd

Allum, W.E. *a.* MaryleboneHr.Gr.Tech.S.
²Barnes, J.A.T. Private tuition
²Bishop, R.P. West Cliff House, Dawlish
Brown, R.T. *a.al.* Old Palace S., Maidstone
²Carter, W.R. Private tuition
²Casterton, W.C. 27 Foundry Terrace, Market Rasen
Cater, W.L. *d.* Gram. S., Launceston
Culverwell, J.F. *ge.* St. John's C., Brixton
Harvey, E.T. *a.* Winchester House, Great Yarmouth
Irving, R. *d.* Polytechnic Interm. S.
Little, H.W. *eu.* Laxton S., Oundle
Mares, T.J. Tollington Park Coll.
Moran, R.J. *ea.* Taunton's Trade S., Southampton
Newman, H.J. *e.h.* College H., Braintree
²Parker, S.S. *d.* Wesley Coll., Sheffield
²Passingham, A.M.O.A Dover Coll.
²Priestley, A. Wesley Coll., Sheffield
Saxby, M. Montrose Coll., Brixton Hill
Sheppard, W.H. *a.ge.* Coopers' S., E.
²Stacey, H. Wesley Coll., Sheffield
Wood, J.J. *a.* Montrose Coll., Brixton Hill

²Adam, G.D. OxfordH., SutherlandAvenue
²Baye, C.H. St. Joseph's Coll., Tooting
²Bevan, E. St. Kilda's Coll., Waterlooville
Bradshaw, J.G. *a.* 15 Frenchwood St., Preston
Byrue, E. St. Joseph's Coll., Dumfries
Cashman, P. *a.* High S., Croydon
Cook, A. *e.a.* Coopers' S., E.
²Crane, H. Hillmartin Coll., Camden Rd.
²Curtis, S. Malden Coll., New Malden
²D'Aguilar, C.S. Grosvenor S., Bath
Dye, S.T. South Hackney Coll., N.E.
Gapp, R.A. *e.a.* The Cedars S., Ealing
Haymes, W.H.V. *a.* Independent Coll., Taunton
Horton, H.D. *a.* Taunton's Trade S., Southampton
Jones, H. *a.* Llandyssul Intermediate S.
²Jones, W. County Interm. S., Llandilo
Kendall, E.M. High S., Croydon
Kent, M. *e.a.l.* Beaconfield C., Plymouth
Kite, P. *al.* Kuruella, Bournemouth
²Lowsley, S.E. Private tuition
Matthews, C.R. *ad.* Tollington Park Coll.
Osmond, H. *g.al.* The Coll., Hendon
Passmore, P.J.H.J. *d.* Montrose Coll., Brixton Hill
Preston, A.P. Bethany House, Goudhurst
²Ray, A.D.H. Private tuition
Richardson, A. *d.* Queen's Walk S., Nottingham
²Roberts, J.W.N. Shrewsbury S.
²Robinson, M.H. St. Catherine's, Littlehampton
Robson, A.C. *g.a.* Newcastle Modern S.
Shafto, J.S. *a.* Truro Coll.
Sharp, W.J. Hastings Gram. S.
Stone, G. *a.* New Coll., Worthing
²Taylor, C.L.D. Newton House, Brighton
Thomas, W.E. *a.* County S., Pontypridd
Turner, H.E.B. *a.* Gram. S., Steyning
²Walker, J.D. Woodgrange H., Forest Gate

Atkinson, J.D. *d.* Gram. S., Mirfield
Barlow, H. *a.* Truro Coll.
Bawden, F.P. Tollington Park Coll.
²Bloomer, J.H. Halesowen Gram. S.
²Brangwin, G.T. BibleChrist'nC., Shebbear
Camus, H.J. *f.d.* St. Joseph's C., Tooting
Church, W.B. *e.d.* Newbury Gram. S.
²Craig, K.C. Laxton S., Oundle
Deuchar, C. Queen's Walk S., Nottingham
Duffus, G.C. Forest Hill Middle Class S.
Goddard, H.G. *a.al.* Polytechnic Tech. S.
²Guinevan, J. St. Patrick's Middle S., W.C.
²Jones, J.T. Combe Lodge S., Gt. Malvern
Kitto, B.T. Tollington Park Coll.
²Lima, A.V. St. George's Coll., Weybridge
Megginson, R. Commercial Coll., York
Morris, A.E. Clyde House, Hereford
²Patrick, E.R. Private tuition
Phillips, E.S. *e.* Coopers' S., E.
Sanderson, W.H. Hastings Gram. S.
Smith, P. *a.al.* Queen'sWalkS., Nottingham
Soper, E.F. *a.al.* Polytechnic Tech. S.
²Travis, F.W. Private tuition
²Warburton, G.A. Uckfield Gram. S.
²Ward, G.H. Private tuition
Worn, A.B. *g.* Polytechnic Tech. S.

Alexander, W.R. *ad.* Taunton's Trade S., Southampton
²Anson, J.W. St. John's Coll., Brixton
²Barker, W. Ilkley Coll.
Bayley, C.S. Oswestry Gram. S.
¹Bridgwater, D.S. Private tuition
²Brooks, W.J. Montrose Coll., BrixtonHill
Candy, F.A. *a.* Beaconfield Coll., Plymouth
²Chapman, C.E. Borden S., Sittingbourne
Chipp, W. *g.* Lady Hawkins' S., Kington
²Culverwell, W. *d.* Finsbury Park Coll.
Dawkins, W.A. *a.* Taunton's Trade S., Southampton
²Grimsdale, H.A. Victoria Coll., Buckingham Palace Rd.
²Hubbuck, T.F. Deal Coll.
²Hutchinson, J. Hutton Gram. S., Preston
²Kirkham, G.H. Coopers' S., E.
McWhinnie, C.R. Taunton's Trade S., Southampton
²Morton, D.S. Fortescue Coll., Radstock
²Searle, C.B. Hill House, Totnes
²Smith, E. Bethany House, Goudhurst
Smith, E.W. Q. Mary's H. S., Walsall
St. Clair, P. *e.* County S., Dolgelley
Tremain, A. Truro Coll.
Watson, R.M. Truro Coll.
²Whidborue, C.H. Edward VI. Gram. S., Totnes
²White, H.E. SummerleazeC.S., E. Harptree
²Wordingham, W.E. Mt. Pleasant, Lewish'm

Arnold, B. Polytechnic Inter. S.
²Barber, G.W. ManorHouseColl., Hastings
²Barnett, J.C. St. George'sColl., Weybridge
Bendall, A.G. Eye Gram. S.
²Benekendorff, L.E. Dunheved Coll., Launceston
Bennett, C. Gram. S., Mirfield
Billenness, G. Rye Gram. S.
Boulenger, G. *l.* St. George'sC., Weybridge
Bowman, H. *a.* Froebel House, Stoke, Devonport
²Burton, W. Private tuition
Canham, A.H. *e.al.* MutleyGr.S., Plymouth
Cooke, J.W. *d.* Edgbaston Academy
Cory, J. *a.* Gram. S., Launceston
Doherty, J. *al.* Cath. Coll. Inst., M'chester
Etherington, E.C. *a.* Thanet Coll.
Evans, J. *a.d.* Llandyssul Inter. S.
Francc, A. Gram. S., Mirfield
²Furness, C.A. Wesley Coll., Sheffield
Goff, H. Uckfield Gram. S.
²Harris, D.R. Private tuition
Hill, C.H. *a.d.* Deal Coll.
Jones, N.H. *a.sh.* County S., Dolgelley
²Midlen, J. Truro Coll.
Packham, C.F. Malden Coll., New Malden
²Perkins, D.S. West Cliff House, Dawlish
²Petersen, E. Newcastle Modern S.
²Plucknett, E.F. Hazelcroft, Weston-s.-M.
²Simpson, G.R. Kingswood S., Bath
Spark, T.F. *a.al.* Tollington Park Coll.
²Stoney, E.P. Epsom Coll.
²Sutton, R.P. Hastings Gram. S.
²Wainwright, J.S. Oswestry Gram. S.

Alexander, J.L. *l.* St. George'sC., Weybridge
Allen, H.C. Polytechnic Inter. S.
Bourke, E.W. St. George'sColl., Weybridge
Brierley, H.B. *e.a.* Heaton Lodge, Bradley
Bush, G.H. *a.al.* Marylebone Hr. Grade Tech. S.
Chard, A.J. *e.a.* Coopers' S., E.
Dorran, H. Cath. Coll. Inst., Manchester
Fabel, C. *ge.* Norman Road S., Rusholme
Gaywood, H. *a.* Rye Gram. S.
²Gaze, A.H. Kensington Park Coll., W.
Harding, A. *a.al.* Polytechnic Inter. S.
²Holmes, W.F. King's Coll. S., Wimbledon
Hyem, W. Queen's Walk S., Nottingham
Jones, J.P. *l.* Oswestry Gram. S.
Kilvert, W. *a d.* Park Villa S., Dorrington
²Lake, G. Mercers' S., E.C.
Mather, C.G. *a.* WoodgrangeH., ForestGate
²Matthews, W.C. Clyde House, Hereford
Muller, M. *ge.* Polytechnic Inter. S.
²Myer, H.S. Oxford H., Sutherland Aven.
Newsome, O.A St. Philip'sGr.S., Edgbast'n
²Parsons, C.C. DunhevedColl., Launceston
Sejourné, F. *f.* ManorHouseColl., Hastings
Smith, B.C. Malden Coll., New Malden
Smyth, E.H. *h.g.* IndependentC., Taunton
Summers, G. High Pavement S., Nottingham
Tremearne, C.F.S. Uckfield Gram. S.
²Tucker, A.N. Edward VI. Gram.S., Totnes
Tyler, J. South Hackney Coll., N.E.
²Welford, A. *d.* ManorHouseColl., Hastings
Yates, G.H. Fartown Gr. S., Huddersfield

²Armstroug, A.J. *e.* Harlesden Coll.
Baker, O.W. *a.* Upper Hornsey Rise S.
Berry, C. *d.* St. Joseph's Coll., Dumfries
Clarkson, J. *d.* St. Joseph'sColl., Dumfries
²Cook, J.O. Marlborough House, Sidcup
Dean, S.H. Waterloo Coll., Liverpool
Doré, J.B. *al.d.* Coopers' S., E.
Eacott, S.J.T. Fartown Gram. S., Huddersfield
Elliott, E. Commercial Coll., York
Garrett, C. *e.al.* Polytechnic Tech. S.
Gaze, H.S. Winchester H., Gt. Yarmouth
Gillman, P.R. *h.* Devizes Coll.
²Halton, P.A. Private tuition
²Hurrell, J.N. Kingsbridge Gram. S.
²Jones, A.M. Ruthin Gram. S.
Mellor, H. Queen's Walk S., Nottingham
Mortimer, H.B. *d.* Longsight Gram. S.
²O'Neill, G.J. St. Joseph's Coll., Tooting
²Oveuden, F.K.C. West Leigh, Botley
Quinquenal, J.J. *g.f.* Salvandy Terrace S., Jersey
²Ralph, R.D. WestbourneS., Bournemouth
Roberts, H. *l.* King Square, Bridgwater
Sharp, C.G. Homefield Prep. S., Sutton
Simpsou, W. *a.* The Academy, Wakefield
Springer, L. Great Ealing S.
Summers, H.E. *a.d.* CountyS., Pontypridd
²Timberlake, W.J.C. Private tuition
Truby, L. *a.* Belmore House, Cheltenham
Vipan, J.M. Laxton S., Oundle
Walker, H.J. *a.d.* Heaton Lodge, Bradley
Wenham, P.G. *e.* Belvedere, Hayward's Heath
Wilcox, O.G. *a.d.* Modern S., E. Grinstead
Wilkinsou, J.W. York Manor S.
²Williams, J.A. 24 Chancery Lane, W.C.

THIRD CLASS.—2ND DIVISION.

²Austen, E.H. Rye Gram. S.
Baker, A.M. *a.* LadyHawkins'S., Kington
Barker, E. *a.d.* Spring Garden S., Stockton-on-Tees
Berry, L.W.A. Enfield H., Surbiton Hill
²Brown, G.G. Private tuition
²Burnett, G.C. Private tuition
Caporn, F.M. Montrose Coll., Brixton Hill
Collins, H.G. Modern S., East Grinstead
Crowther, C.C. *eu.* Tollington Park Coll.
Davies, H.R. Coopers' S., E.
Duval, P.P. *f.* St. Joseph's Coll., Tooting
²Ellertou, W.B. OxfordH., Sutherland Av.
Farquharson, J.R. *a.* Bethauy House, Goudhurst
²Green, W.E. Private tuition
Jackson, J.H.S. *ea.* Coopers' S., E.
Jenkin, G. Streatham House S.
Kerrigan, J. *a.* Cath. Coll. Inst., M'chester
Laird, J. St. Joseph's Coll., Dumfries
Lambert, W.C. *e.h.* Coll. House, Braintree
²LeRossiguol, W. Victoria Coll., Jersey
Lockington, A. *d.* St. George'sC., Weybridge
Marks, E. St. Joseph's Coll., Dumfries
Moran, K.C. Queen Mary's S., Walsall
Parvin, C.W. Tollington Park Coll.
²Platt, H. Private tuition
²Roden, J. St. Joseph's Coll., Dumfries
Scanlou, M. *d.* St. Mary's C., Woolhampton
²Smith, L.P. Paradise H., StokeNewington
Slater, W.D. The Blue S., Wells
Symmons, E.F. *d.* Gram. S. Bournemouth
²Taylor, N. Mid. Class S., Littlehampton
Tidy, A.E. *a.* Uckfield Gram. S.
²Varley, E.A. Ealing Gram. S.
Walker, S. *a.e.* Oaklands, W. Didsbury
²Willis, R. Private tuition
²Woodruff, W. Sandwich S.
Yates, L. St. Joseph's Coll., Dumfries

Barnfield, A.J. *a.* Douglas S., Cheltenham
Bruce, C. Gram. S., Mirfield
²Burke, F. Ilkley Coll.
Butterworth, R.W.J. *a.al.* Whalley Range Coll. S.
Carmichael, F.J. *a.d.* Taunton's Trade S., Southampton.
Carpani, S.D. *a.al.* Polytechnic Tech. S.
²Chater, T.A. Shrewsbury S.

BOYS, THIRD CLASS—*Continued.*

²Day, H.F. *d.* Gram. S., Bournemouth
Evans, C.A. Lady Hawkins S., Kington
Evans, D. *a al.* Carmarthen County S., Pencader
Evans, E. St. Catharine's S., Broxbourne
Farrell, L.R. St. Philips Gr. S., Edgbaston
²Gaiger, C.C. St. George's Coll., Weybridge
Gillies, D. *g.* High Pavement S., Nottingham
Heasman, R. *d.* Modern S., E. Grinstead
Jarvis, W. *a.* Brondesbury Coll.
²John, H.H. Private tuition
²Jones, A.L. Oswestry Gram. S.
²Jones, D. Llandyssul Inter. S.
Jones, L.L. Gram. and Coll. S., Carnarvon
Jordan, W.C. *a.* Winchester H., Gt. Yarm'th
²Jukes, A.D. Missionaries' Sons S., Blackheath
Masters, H.J. *h.a.* Rye Gram. S.
Quiney, E.G.H. Coopers' S., E.
Reardon, P. St. Joseph's Coll., Dumfries
Smith, A. W. Tollington Park Coll.
Thompson, A.M. *a.* Modern S., Eccles
Townsend, H. Modern Coll. S., Rhyl
Tutt, N.J.H. Hastings Gram. S.
Walmsley, F. St. Joseph's Coll., Dumfries
White, O.D. *e.h.* Highfield, Wandsworth Common
Williams, S. *a.* Kingsholme S., Weston-s.-M.
²Young, A.G. Bethany House, Goudhurst

Bellamy, A. *d.* High Pavement S. Nottingh'm
Bellman, A.L. Laxton S., Oundle
Bevan, H. *a.* St. Kilda's C., Waterlooville
²Bishop, L.F. Manor House C., Hastings
Bloxsome, A.J.E. *a.* The Coll., Weston-s.-M.
Buckle, J.M. *a.* Laxton S., Oundle
²Chantler, H.C.C. Bethany H., Goudhurst
Crabb, R.L. Tollington Park Coll.
¹Evans, W. Ruthin Gram. S.
²Footner, W.E. Private tuition
²Foster, C.W. St. Catherine's S., Broxbourne
Gammon, M.P. Malden Coll., New Malden
Gordon, W. St. Joseph's Coll., Dumfries
Gower, G. *d.* County S., Pontypridd
Greaves, F.G.H. *h.* Taunton H., Brighton
²Harman, A.J. Harringay Park S.
²Harris, A. Private tuition
Henley, F.F. *s.* Rye Gram. S.
Loyd, F. *g.* Uckfield Gram. S.
²Mason, W.J.A. The Coll. S., Huyton
Merchant, G.F. *a.* Lady Hawkins' S., Kington
Mitchell, S.H. *e.d.* Woodstock Gram. S.
²Morley, B. Tenby Interm. S.
²Orton, C.L. Shrewsbury Coll.
Pain, T.A. *al.d.* Polytechnic Tech. S.
Sutton, J.S. *a.* Bible Christian C., Shebbear

Angus, K.M. *e.a.* Independent C., Taunton
Arrowsmith, J. *a.* Cath. C. Inst. M'chester
²Beel, F. Independent Coll., Taunton
²Bettess, R. *d.* Foster's S., Sherborne
Brook, T.H. *d.* Almondbury Gram. S.
Carter, C.H. *d.* Barnstaple Gram. S.
Fisher, J.S. Wirksworth Gram. S.
Grinsted, W.F.H. Private tuition
Hepworth, L.A. Whalley Range Coll. S.
²Hoe (Nai) Heathmere, Hayward's Heath
Mixer, J.H.W. *f.* Highbury Park S.
Monk, J.E.W. *e.* Mutley Gr. S., Plymouth
²Mooney, J.J. St. George's C., Weybridge
Nunnerley, T.B. *a.* Whitchurch Gr. S., Salop
Parke, E.H. *e.* Avon House, Southsea
Pescod, W.F. Taunton's Trade S., Southampton
Rayner, G.A. *e.* Fartown Gr. S., Huddersfield
Rowell, C. Newcastle Modern S.
Sanders, S. Barnstaple Gram. S.
²Shuttleworth, H.E. *d.* Leeds Boys' Modern S.
Sinclair, J.M. *f.* Leo House, Margate
Stallworthy, C.H. Hutton Gram. S., Preston
Summerfield, H. *e.* Barnstaple Gram. S.
²Swann, A.E. Snettisham S.
Thompson, H.G. *e.d.* Old Elvet S., Durham
²Tickell, W.G. *f.* Private tuition
Tinney, W. *a.* Truro Coll.
²Walker, W.E. Edward VI. Gram. S., Totnes

Barnard, S.H. *a.* Gram. S., West Cowes
²Barnes, G. 10 Anerley Road, S.E.
Batt, F.W. *a.* County S., Pontypridd
Bellott, M.P. *f.d.* St. Joseph's C., Tooting
Bingham, L.W. Waterloo Coll., Liverpool
Brightwell, E.L. Bethany H., Goudhurst
Burgoyne, W.O. University S., Southport
²Christierson, W. *ge.* King's Coll. S., Wimbledon
Clemens, C.T. *a.* Truro Coll.
Cole, E.R. Belmore House, Cheltenham
Cunningham, W. Cathedral Choir S., Edinburgh
Durell, J. Coopers' S., E.
Fawkes, W.H. Edward VI. Gram. S., Totnes
Holden, G.A. *a.* Llandudno Coll.
Houstoun, M.D. *h.* Lancaster Coll., W. Norwood
Hughes, F. *a.* Oswestry Gram. S.
Hunt, E.B. *e.* Hr. Grade S., Torquay
Huntbatch, L.H. *a.* Whitchurch Gr. S., Salop
²Jones, J. (i.) Llandyssul Inter. S.
Jones, J.R.A. Oswestry Gram. S.
Lee, W. *a.d.* Tenby Intermediate S.
Lord, A. Truro Coll.
²Medina, H.C. Manor H. Coll., Hastings
Moss, R.D. Tollington Park Coll.
²Noice, S.J. Taplow Grammar S.
²O'Brennan, H.A. St. George's Coll., Weybridge
Platts, R. *a.d.* Hutton Gram. S., Preston
²Puddephatt, P.H. Bethany H., Goudhurst
Roberts, H.E. *al.* Ruthin Gram. S.
²Rumbold, D.C. Winchester House, Gt. Yarmouth
Rushton, A. University S., Southport
South, F.M.W. *a.al.* Taplow Gram. S.
Stanley, J.H. Marylebone Hr. Gr. Tech. S.
²Trollip, J.R. Carmarthen County S., Pencader
²Wallis, R.W.D. St. Catherine's, Littlehampton
Wright, H. Uckfield Gram. S.

Ashdown, H.E. *h.* Rye Gram. S.
²Baillie, P. Private tuition
Birks, H. Osborne H. S., W. Hartlepool
Canty, E. *a.* St. Mary's C., Woolhampton
Copley, R. *d.* High Pavement S., Notts
Cross, W.H. Cath. Coll. Inst., M'chester
Dickinson, H. Almondbury Gram. S.
Evans, E. *g.d.* County S., Pontypridd
²Felton, F. Sandwich S.
Green, P.E. Taunton's Trade S., Southampton
Gudgeon, L. St. Mary's C., Woolhampton
Hamber, M.E. *s.* Gram. S., Steyning
²Hamilton, G.A.H. St. John's C., Grimsargh
²Harris, F.P.W. Uckfield Gram. S.
²Hubbuck, W.A. Deal Coll.
²Hughes, R.G. Truro Coll.
²Hutley, R. Uckfield Gram. S.
Knight, W. Queen's Walk S., Nottingham
²Lloyd, A.C. Private tuition
Macpherson, W.R.C. *e.* Taunton House, Brighton
Maynard, K.R. 21 Springfield Rd., St. Leonards
Murray, G. *e.* The Cedars S., Ealing
Newbury, J.A. Taunton's Trade S., Southampton
²Padley, C. Ormskirk Gram. S.
Painter, P.F. Hornsey Gram. S.
Parsons, A. *a.al.* Holloway Coll., N.
Phillips, F. Bethany House, Goudhurst
Pounds, R.H. *e.* Coopers' S., E.
Powell, H.L. *d.* Malden C., New Malden
Priest, J.H. *d.* Halesowen Gram. S.
²Rubie, L.P. Sidcup Coll.
Sanders, L.B. Percy House, Deal
Thomas, J. Llandyssul Inter. S.
²Tomkins, A.P. Thanet Coll.
Truscott, G.B. Bible Christian C., Shebbear
²Winton, H.J. Private tuition
Wren, H.L. Tollington Park Coll.

Aorton-Bennett, A.G. *a.* Bethany H., Goudhurst
Boustred, H.N. *d.* Hornsey Gram. S.
Burton, C. Hutton Gram. S.
Cox, H.C. *g.* Old Palace S., Maidstone
Daireaux C.L. *h.f.* St. Joseph's C., Tooting
Dunbar, D. *h.* Almondbury Gram. S.
²Ellis, H. Waterloo Coll., Liverpool
French, R.K. Tollington Park Coll.
Green, F.M. St. Catharine's S., Broxbourne
Gibbons, G. *a.* New Brighton High S.
Greenberg, M.S. *a.* Great Ealing S.
Hart, J.P. Highbury Park S.
Jamieson, J.P. Park S., Wood Green
Kear, W. *a.* Holloway Coll., N.
Keevil, R. *h.* St. John's Coll., Brixton
Kilner, D.N. *a.l.* Kensington Park C., W.
Lanham, E. *a.* Holloway Coll., N.
²Leng, J.H. Comm. Coll., York
²Lowe, W.S.E. Private tuition
McCombie, C.E. Coopers' S., E.
²Munslow, W. Lady Hawkins' S., Kington
Nadaud, C. *a.* Moldova H., Clapham Pk. Rd.
Norman, E.J. Sandwich S.
Powell, J.G. *a.* St. George's C., Weybridge
²Ravenor, A.S. Newbury Gram. S.
Rogers, J.R. *a.* Oxford H., Brighton
Sale, T.W. *a.al.* Marylebone Hr. Gr. Tech. S.
Sapp, L.A.R. *d.* Warwick H., Southsea
Tavener, W. *a.* Polytechnic Tech. S.
²Wivell, M. Dunheved Coll., Launceston

²Allberry, A.J. Borden S., Sittingbourne
²Andrews, H.B. Newbury Gram. S.
Beech, F. Ruthin Gram. S.
Bright, J.T. Whitchurch Gram. S., Salop
Casey, S. *a.* St. Mary's C., Woolhampton
Cox, A.E. St. Philip's Gram. S., Edgbaston
²Dalton, J.B. Llandudno Coll.
Durrans, E. Gram. S., Mirfield
Edwards, D.W. *a.* County S., Pontypridd
Gasston, W.S. Belvedere, Hayward's Heath
Gaydon, H. Independent Coll., Taunton
²Greenhalgh, J.T. Gildersome Coll.
Haswell, J.F. Llandudno Coll.
Hodder, S.Y. *a.* Kingston S., Yeovil
Isbister-Smith, N.W.K. Uckfield Gram. S.
Jones, A.H. Whalley Range Coll. S.
Killer, A. Wirksworth Gram. S.
Maguire, F.J. *d.* Thanet Coll.
²Mahy, L.G. Sidcup Coll.
McLaughlin, W.R. *a.al.* Moldova House, Clapham Park Road
Metcalfe, T.M. Osborne H.S., W. Hartlepool
Morgan, G.F. Coopers' S., E.
Phillips, P.L. *d.* Polytechnic Tech. S.
Salmon, J. Cath. Coll. Inst., M'chester
Scudamore, R.B. *a.* County S., Pontypridd
Smith, R.F. Uckfield Gram. S.
Spensley, T. *al.* High Pavement S., Nottingham
Taylor, F. *a.* Kingsbridge Gram. S.
²Tresidder, W. Penwerris Gram. S., Falm'th
Williams, D.J. *e.a.al.* County S., Pontypridd
²Wood, J.H.P. Horsmonden S.
Wright, A.H. Halesowen Gram. S.

²Arman, C.K.B. St. Margaret's Coll., Lowestoft
Benn, F.W. *e.g.* The Cedars S., Ealing
Buckland, B.J. *g.* Modern S., Maidenhead
²Curtis, L. South Pallant S., Chichester
Davis, R. *d.* Belmore House, Cheltenham
Eaves, R. Ilkley Coll.
Gomme, F. Middle Class S., High Wycombe
Gregory, A.G.H. Hastings Gram. S.
²Handysides, W.R. Newcastle Modern S.
Holmes, W.G. *a.* Bible Christian C., Shebbear
²Hyslop, W. Harlesden Coll.
²Ibbitson, E.D. Wesley Coll., Sheffield
Jackson, C. Shrewsbury Coll.
Jackson, F.A. *a.* Laxton S., Oundle
Knight, C. Kensington Park Coll., W.
²Lawson, H.V. St. John's Coll., Brixton
Leahy, W.J. St. George's Coll., Weybridge
Lewis, T. *d.* Oswestry Gram. S.
Manwaring, P.B. *a.* Thanet Coll.
²Paine, R.W. Oxford County S., Thame
Redding, H.T. *d.* St. Joseph's C., Tooting
Roberts, R.D. *a.al.* Ruthin Gram. S.
²Rolt, J.W. Borden S., Sittingbourne
Scobie, A.W. *a.* Woodgrange House, Forest Gate
Taylor, W.C.O. Cooper's S., E.
Towers, G.B. *a.* Witton G.S., Northwich
Turner, A.W. *al.* St. John's Coll., Brixton
Whittle, T.S. University S., Southport
Wilson, A. *a.* Gram. S., Mirfield

Bristow, W. Malden Coll., New Malden
Cole, H.A. Belmore House, Cheltenham
Cullen, W.G. Polytechnic Inter. S.
²Davis, H. Sidcup Coll.
Ferne-Edwards, V. Montrose Coll., Brixton Hill
Field, C.S. *e.* Fartown G.S., Huddersfield
Foster, W. York Manor S.
Frankland, F. *a.* High Pavement S., Nottingham
French, B. Uckfield Gram. S.
Haines, G.H. *a.* Taunton's Trade S., Southampton
Harris, W.E.T. Uckfield Gram. S.
Hart, O.L. *a.* Gram. S., Streatham
Hewson, B.T. Bible Christian C., Shebbear
Hockley, E. Belvedere, Hayward's Heath
Jones, J. (iii.) Llandyssul Inter. S.
Kinnett, H.C. Kingsholme S., Weston-s.-M.
Loys, J.A. *f.d.* St. Joseph's Coll., Tooting
Lynas, H.M. *a.* The Academy, Wakefield
²Masterman, R.C. Private tuition
Middleton, V. *a.* Newcastle Modern S.
Moore, *a.* Polytechnic Tech. S.
Morris, T. Sandwich S.
Muirhead, J. Whitchurch Gram. S., Salop
Oldfield, G.K. *h.* Manwood's Gram. S., Sandwich
Popkin, V.W.B. *d.* Hillmartin Coll., Camden Rd.
Roberts, R.P. *a.* Gram. & C. S., Carnarvon
Shakespeare, W. *g.d.* High Pavement S., Notts.
Spencer, F.W.S. *l.* Guildford
Stedman, F.G. Hardwicke H., Seaford
²Stenhouse, C.C. Oxford County S., Thame
²Stephenson, T. Sandyford Acad., Newcastle-on-Tyne
Stringer, H. *g.* Harlesden Coll.
²Tice, E.H. Private tuition
Wallington, R. Sidcup Coll.
Williams, J.A. Maindee C., Newport, Mon.
Williams, J.P. Oswestry Gram. S.
Wood, J.P. Coopers' S., E.

Dobson, J. Longsight Gram. S.
²Dwyer, A.J. St. George's C., Wimbledon
Forbes, R.G. *a.* Laxton S., Oundle
Gaue, T.J. Taunton's Trade S., Southmp'on
²George, P. Tenby Intermediate S.
Giles, L. St. Mary's Coll., Woolhampton
Henderson, F.J. Whitchurch Gram. S.
James, G. County S., Dolgelley
²Keeble, A.G. Kingswood S., Bath
Kirby, W.L.H. *h.* Gram. S., Steyning
Lewis, J.D. *a.* Llandyssul Inter. S.
Minniken, T.B. Homefield Prep. S., Sutton
²Mutch, L.A.S. Tollington Park Coll.
Norman, A.F. Malden Coll., New Malden
Ogden, S. Holly Bank S., Manchester
Penwill, P.G. Hoe Gram. S., Plymouth
Perkins, H.H.W. Modern S., E. Grinstead
Prescott, R. Cath. Coll. Inst., Manchester
Redjeb, P. University S., Southport
Richards, L.M. *a.* Bible Christian C., Shebbear
Robinson, J. *h.g.* Highfield, Wandsworth Common
Salter, L.C. Deal Coll.
Stimson, D.C. *a.* Uckfield Gram. S.
Tuckwell, H.J. East Cliff S., Bournem'th
Walmsley, J.P. Hutton Gram. S., Preston
²Warlow, H.M. Ormskirk Gram. S.
Willis, R. Osborne H., W. Hartlepool
Winstance, W.A. Willow House, Walsall

Beckett, R.A. *a.* Coopers' S., E.
Bower, E.J. St. Philip's Gr. S., Edgbaston
Bright, E. Holloway Coll., N.
Capon, E.B. *a.* Eye Gram. S.
Clarke, W. Cath. Coll. Inst., Manchester
Clegg, H. Queen's Walk S., Nottingham
Cooper, A.B. *d.* Taplow Gram. S.
²Crisp, W.B.F. Manor House C., Hastings
Dunn, A.J. *e.a.* St. George's C., Weybridge
Field, G.H. Henry Smith S., Hartlepool
Fox, D.A. Queen's Walk S., Nottingham
Greer, L.R.W. Montrose C., Brixton Hill
Gunnell, B. High S., Croydon
Haden, F. County S., Pontypridd
Houlder, A.J. The Cedars S., Ealing
²Howard, D.C. Hall Gate S., Doncaster
Howden, R.W. Commercial Coll., York
Hunt, R.G. *a.* Gram. S., Steyning
²Ingoldby, F.T. Wesley Coll., Sheffield
Iselton, L.P. *e.* Carter House, Deal
Tylden Pattenson, W.H. Laxton S., Oundle
Jones, D. (ii.) Llandyssul Intermediate S.
Lerry, G.G. Oswestry Gram. S.
Martin, W.G. Uckfield Gram. S.
Murch, H.J. Upper Hornsey Rise High S.
²Peers, J. Danes House, St. Anne's-on-Sea
Price, H. *d.* Gram. S., Bournemouth
Quantock, W. *e.* Kingston S., Yeovil
²Richardson, P. Dudley Middle Class S.
Rossiter, H. *a.* Kingsbridge Gram. S.
Smith, E.W. *a.* Coll. S., South Shore, Blackpool
²Taylor, H. St. John's Coll., Grimsargh
²Thomas, W.G. Oswestry Gram. S.
Tyler, G.H. Sandwich S.
Undrell, H.W. Coopers' S., E.
²Walker, C.A. Private tuition
²Ward, E.H. Victoria Hall, Manchester
²Willcocks, A.C. Private tuition
Winter, G. University S., Southport

Adams, W.L. *g.* Taplow Gram. S.
Anderson, E.W. Horusey Gram. S.
²Baker, R.W. Kingswood S., Bath
Barnes, F.H. Coopers' S., E.
Barter, P. Lancaster Coll., W. Norwood
Bayliss, W. County S., Pontypridd
²Biscoby, A.P. Wesley Coll., Sheffield
²Browne, L.F. Hastings Gram. S.
Dalziel, P. *g.* Osborne High S., W. Hartlepool
Davis, A.T. Kensington Park Coll., W.
²Denton, W.A. Manor House C., Hastings
Evans, C. Marylebone Hr. Gr. Tech. S.
²Frodsham, F.L. Central Hill Coll., S.E.
²Gould, C. Taunton's Trade S., Southamptou
Grantham, C.V.A. High S., Freshwater
Gyllencreutz, J.R. Ruthin Gram. S.
Hellier, R.C.M. Balham S.
Hobbs, E. *g.a.* Eton Coll. Choir S.
Jury, B.G. Hornsey Gram. S.
²Lampshire, S. Froebel H., Stoke, Devonport
²Mackey, T. Ilkley Coll.
Male, R. *al.* Marylebone Hr. Gr. Tech. S.
²Massou, C.C. Deal Coll.
Masters, H.E. Sandwich S.
Matthews, J.E.N. St. John's Choir S., St. Leonards
Notman, A. High Pavement S., Nottingham
Ray, C.R. *e.* Coopers' S., E.
Sargisson, R. Newcastle Modern S.
Shipley, G. *d.* Walsall Commercial Coll.
Smith, A. *a.* Newcastle Modern S.
Strickland, G.T. Gram. S., Steyning
Stuttard, V.A. *e.* Forest Hill Middle Class S.
Sully, F.A. Dr. Morgan's S., Bridgwater
Teare, J.W. Oswestry Gram. S.
²Wooldridge, H.J. Private tuition
Yates, A.P. Fartown Gram. S., Huddersfield

Armitage, W. Gram. S., Mirfield
Bevan, J.A. St. Kilda's Coll., Waterlooville
Blenzberg, W.J. St. George's C., Weybridge
Bradbury, T. University S., Southport
²Broom, H.S. Private tuition
Cable, S.J. Raleigh Coll., Brixton
²Crane, C. Cathcart Coll., Cathcart Hill, N.
²Crew, E.N. Tetbury Coll. S.
²Cumber, C.E. Victoria Coll., Buckingham Palace Rd.
²Davis, R.H. Private tuition
Finn, R. Catholic Coll. Inst., Manchester
Fitch, P. Oxford House, Brighton
Gascoine, G.A. Hillmartin C., Camden Rd.
Gracie, D. St. Mary's Coll., Woolhampton
Hill, H.T. *d.* Tetbury Coll. S.
Hill, R. *a.* Spring Garden S., Stockton-on-T.
²Hodgson, A.J. The Coll. S., Huyton
Horne, H.E. *h.a.* Gram. S., Streatham
Lewis, S.W. Newcastle Modern S.
Marsh, C.H. *a.* Borden S., Sittingbourne
Porter, W.P. Winchester H., Gt. Yarmouth
Pounder, A. *e.* Osborn H.S., W. Hartlepool
Scarth, F.G. *d.* Gram. S., Streatham
Seddon, R. University S., Southport
Slater, J.H. York Manor S.
Young, A.C. *a.* St. John's Choir S., St. Leonards

Alexandre, E.F. *a.f.* Oakwood House, Jersey
Bailey, G.W. Hutton Gram. S., Preston

BOYS, THIRD CLASS—*Continued.*

²Bayly, J.W.H. 21 Springfield Rd., St. Leonards
²Budd, F.P. Victoria Coll., Buckingham Palace Rd.
Burkmar, G. Deal Coll.
²Burnett, P. Pannal Ash Coll., Harrogate
Coole, C.E. *d.* County S., Pontypridd
Coombs, R.J. *a.* Taunton's Trade S., Southampton
Cowell, E.M. Gram. S., Steyning
Cross, G. Brondesbury Coll.
Graham, H.S. *e.* Hornsey Gram. S.
Green, M. Private tuition
Hitchins, T.J. Hoe Gram. S., Plymouth
Hodge, W.G. *a.* Modern S., Chichester
Homberger, S. Alwyne House, Canonbury
Jones, W.N. Argyll H., Nightingale Lane, S.W.
LeBoutillier, J.S. *f.* Oakwood H., Jersey
Lockwood, H. Lancaster C., W. Norwood
Lunt, A.H.M. *d.* 20 West Cliff, Preston
Makin, M. Wellington S., Heaton Moor
Neeves, A Rye Gram. S.
Nelson, H. St. Mary's Coll., Woolhampton
Noakes, D. Bethany House, Goudhurst
Parry, H.H. *e.a.* County S., Dolgelley
²Pratt, W.P.R. Private tuition
Richards, W.B. St. Philip's Gram. S., Edgbaston
Segrave, O'N. English Prep. S., St. Servan
Smith, G.H. University S., Southport
Sutton, F. Princes Road, Liverpool
Symmers, D. *h.* Private tuition
Taylor, F.H. Malden Coll., New Malden
Tongue, W. *a.d.* Polytechnic Technical S.
Wahltuck, H. Norman Road S., Rusholme
Walker, J.B. Tottenham Coll. S.
Wheeler, E. Coopers' S., E.

²Anderson, A. Sandwich S.
Atchison, C.F. Brondesbury Coll.
Bonwick, H.J. *d.* Polytechnic Technical S.
Bowles, A.E. *d.* Prospect House, Dover
Brown, H.N. *a.* Taunton's Trade S., Southamptou
²Cantell, H.J. Carlton House, Jersey
Carter, E. Milton Coll., Bexley Heath
Cook, F.C.W. *a.* Gram. S., Steyning
Cuny, T. *d.* Kingsbridge Gram. S.
Davies, D. County S., Pontypridd
Davies, J.E. Truro Coll.
Edwards, J.R. County S., Dolgelley
Ferguson, W.V. Holloway Coll., N.
Glenn, V. Taunton's Trade S., Southampton
Gyngell, G. *a.* Modern S., Maidenhead
Heasman, A. Modern S., E. Grinstead
²Hibberd, H.S. Independent Coll., Taunton
Jones, D.B. Llandyssul Intermediate S.
Kerr, W. Hounslow Commercial Coll.
King, M.K.C. Newbury Gram. S.
Lock, C.W. Kingston S., Yeovil
Marshall, B. High Pavement S., Nottingham
Mitchell, S. Gram. S., Launceston
Möller, O. *a.* Argyle House, Sunderland.
²Nixon, H.A. Crow's Nest, Richmond.
Owen, W.W. *a.* Oswestry Gram. S.
Parkhouse, G. Kingsbridge Gram. S.
²Shears, A.R. Private tuition
Smyth, F.G. Independent Coll., Taunton
Stammers, H.C. *e.a.* Coopers' S., E.
Watson, P. Polytechnic Intermediate S.
Whitacre, S.J. St. Philip's Gram. S., Edgbaston

²Abbott, R. Waltham Coll.
²Ainsworth, H.W. Wesley Coll. Sheffield
Angove, R.St.A. Montrose C., Brixton Hill
Bailey, A.S. *e.* College House, Braintree
Berry, F.H. Laxton S., Oundle
Bowen, E.M. County S., Pontypridd
Cain, J. *d.* St. Philip's Gram. S., Edgbaston
Claxton, E. Marylebone Hr. Grade Tech. S.
Cowley, H.R. *g.d.* Romford Gram. S.
Craven, H. *a.* University S., Southport
Cryer, W. University S., Southport
Dallison, P.W. Taunton's Trade S., Southampton
Dutton, F.T. *a.* St. Philip's Gr. S., Edgbaston
Dyer, B.A. Clyde House, Hereford
Ellen, A.W. Raleigh Coll., Brixton
Fox, S.W. Hornsey Gram. S.
George, C.F. *e.* The Cedars S., Ealing
²Gilbert, D. Private tuition
Harrison, J. Modern S., E. Grinstead
Holditch, J.W.L. Whitchurch Gram. S.
²Iszard, H. Prelim. Med. C., Ludgate Hill
Jacques, G. *a.* High S., Sutton, Surrey
²Johnstone, T.B. Manchester Gram. S.
Jones, C. *a.* Barnstaple Gram. S.
Jones, W.J. Coopers' S., E.
²Lloyd, A.P. Porth County S.
²Lockwood, G. Victoria Hall, Manchester
McLachlan, F. *d.* St. Joseph's C., Dumfries
Moss, C.E. *e.* South Park Coll., Wimbledon
Pooley, P. Seaford Coll.
²Preston, C.W.R. Brinklea, Bournemouth
Richardson, W.B. 20 West Cliff, Preston
Rutter, H.A. High School, Croydon
Sheppard, H.L. Gram. S., Streatham
Shipley, W. Walsall Commercial Coll.
Tremlett, L.E.P. Belmout, Exmouth

Barton, R. Witton Gram. S., Northwich
²Boulton, W.E. Private tuition
²Burtt, V.S. Cavendish H., Hammersmith
Buttou, J.B. Eye Gram. S.
Carthew, G. *a.* Stroud Green Gram. S.
Critchison, N. High S., Croydon
²Davies, F.C. Private tuition
Dawkins, E.H. Kingston S., Yeovil
Diplock, T.W. Uckfield Gram. S.
Dunning, A.G. *a.d.* Deal Coll.
²Fitt, A.H. West Leigh, Botley
²Fox, H.J. Private tuition
Head, J. *a.* Holloway Coll., N.
Kensett, W.C. *a.d.* Hasland House, Penarth
Law, T.F.W. Westbourne S., Bournemouth
Maclean, A.F. Polytechnic Technical S.
McKinnell, S.C. Seaford Coll.
Moore, G. Uckfield Gram. S.
Morgan, C. Lady Hawkins' S., Kington
Morley, J. Hall Gate S., Doncaster
Murphy, G.T. Marylebone Hr. Gr. Tech. S.
Quayle, C.J. Waterloo Coll., Liverpool
Ramsdeu, C. Gram. S., Mirfield
Ratcliffe, H. Longsight Gram. S.
Reid, A.F. Modern S., E. Grinstead
Richards, A.J. Grosmont, Brighton
Sadler, E.J.B. *a.* St. Catharine's S., Broxbourne
Southworth, H. Hutton Gram. S., Preston
Stone, S.W. *a.* Stanwell H., W. Hampstead
Watkinson, C.E. Fartowu Gram. S., Huddersfield
Workman, L.M. Clyde House, Hereford

²Andrews, S.M. Thorne Hill S., Blackheath
Beard, W.L. Couuty S., Pontypridd
²Bing, R.H. Mercers' S., E.C.
Bloxsome, F.R.O. The Coll., Weston-s.-M.
²Bolton, J.E. Newbury Gram. S.
Browne, J.E. Commercial Coll., York
Bryant, P.G. Coopers' S., E.
Chandler, C.G. Newbury Gram. S.
Clark, C. *d.* Waltham Coll.
Dearlove, R. Snettisham S.
Dickensou, J. St. Joseph's Coll., Dumfries
Dixon, W. Polytechnic Intermediate S.
Fillan, C.T. Grosmont, Brighton
Gibson, W. Polytechnic Intermediate S.
Griffith, E.J. County S., Dolgelley
Gosling, H.W. *s.h.* St. Edmund's Coll., Birmingham
Haylett, N. *e.h.* College House, Braintree
Homer, T.F. Halesowen Gram. S.
Johnson, H.A. Uuiversity S., Southport
Jones, H.D. Horsmonden S.
Large, C. College House, Braintree
LeRuez, H.P. *a.f.* Oakwood House, Jersey
Marlow, M.W. Hounslow Comm. Coll.
Merrikin, M.S. 38 Beckenham Rd., Penge
Ridgway, E.H. Taplow Gram. S.
Scott, N. *g.d.* Osborne H., W. Hartlepool
Scullian, W. St. Joseph's Coll., Dumfries
²Shannon, G.G. Private tuition
Smith, H.E. Eye Gram. S.
Thomas, F. Taplow Gram. S.
Tuck, F.L.N. Independent Coll., Tauntou
Underwood, H. Modern S., E. Grinstead
Vineett, J.H. *a.* Hastings Gram. S.

Bradbury, W. *a.* Taunton's Trade S., Southampton
²Clarke, L.C. Oxford County S., Thame
Colledge, A. Bible Christian C., Shebbear
Collius, A.J. Woodgrange H., Forest Gate
²Cowan, A.J. Mount Pleasant, Lewisham
Cox, H.W.J. Dr. Morgan's S., Bridgwater
Elliot, J.H. Crescent S., Sheffield
Evans, R.S. County S., Pontypridd
Ford, H.C. Snettisham S.
²Francis, N.T. Private tuitiou
Gorringe, A.L. *h.* Hardwicke H., Seaford
²Gunn, B.M. Kensington Park Coll., W.
Johnson, W. *d.* Coll. S., South Shore, Blackpool
Macdonald, M. *d.* Holmewood S., Upper Tulse Hill
Manley, H. Coopers' S., E.
McMurtrie, J.L. The Coll. S., Huyton
Misselbrook, F.W. Thauet Coll.
Morgan, L. County S., Pontypridd
Murray, J.H. Uuiversity S., Southport
Neustein, F.W. Hornsey Gram. S.
Seaton, D.R. County S., Pontypridd
Singleton, J. *d.* Coll. S., South Shore, Blackpool
Sim, G.G. Coopers' S., E.

THIRD CLASS.—3RD DIVISION.

²Adam, S.D. Oxford H., Sutherland Av., W.
Adams, C.F. Kingsbridge Gram. S.
Barker, W. *d.* Hutton Gram. S., Preston
Bell, W.F. South Park Coll., Wimbledon
Blair, R. Cathedral Choir S., Edinburgh
Blyth, B.H. Heaton House, Hounslow
Brown, H.H. Kiugston S., Yeovil
Bryant, S.G. *a.* Coopers' S., E.
²Calton, W.T.K. Manor House C., Hastings
Cook, W.A.W. Modern S., E. Grinstead
Cousens, F.N. Deal Coll.
Dickins, W.E. *g.* Gosbertou Hall, Spalding
Etherington, R.L. Thanet Coll.
Frearson W.J. *a.* Kingsholme S. Weston-s-M
Ginger, C. Brondesbury Coll.
Goodwin, G.J. Clyde House, Hereford
Greenslade, A.A. Coopers' S., E.
Hardy, T.K. Rye Gram. S.
Heath, P.S. Gram. S., Steyning
Hogan, M. St. Mary's Coll., Woolhamptou
Mallett, H. Montrose Coll., Brixton Hill
Morgan, R.D. Hillmartin C., Camden Rd.
Owen, A. Streatham High S.
Richard, P.F. St. Bouaventure's Gram. S., E.
Schwezel, K. High S., Croydou
Tebbutt, F.S. Laxton S., Oundle
Weaver, H.R. *a.* Whitchurch Gram. S.
Wellmau, A.J. *d.* Gram. S., Bouruemouth
Wigzell, H.E. Harlesden Coll.
Young, W.W. Thanet Coll.

Ades, A. Uuiversity S., Southport
Allen, J.C. Coopers' S., E.
Badcock, F.G. Thanet Coll.
Baker, E.A.C. *a.* Hastings Gram. S.
Calway, F.H.F. Indepeudent C., Taunton
Darley, A.T. St. Philip's Gr. S., Edgbaston
Dutton, G.E. Witton Gram. S., Northwich
Gilbert, W.E. Modern S., Maidenhead
²Hill, W.N. University S., Reigate
Holgate, H.H. Hutton Gram. S., Preston
Leighton, S. *a.* Waterloo Coll., Liverpool
Matthews, F.K. Gram. S., Steyniug
Mitchell, A. St. John's Coll., Brixton
Neve, C.T. Taunton House, Brighton
Parkinson, S.J. Sidcup Coll.
Reckless, P.A. Wesley Coll., Sheffield
²Scott, R.A. St. George's Coll., Wimbledon
Wade, E.G.B. Holmwood H., Hampstead
Walters, J. St. Mary's Coll., Woolhampton
Williams, G. Witton Gram. S., Northwich

Bell, E. University S., Southport
²Blackmore, G.W. Banham Gram. S., Attleboro
Blamey, E.R. Uckfield Gram. S.
²Bolt, A. 10 Anerley Road, S.E.
Brady, P. Beacoufield Coll., Plymouth
Brundrit, G. University S., Southport
Crawford, W. St. Joseph's Coll., Dumfries
Curtis, H. Malden Coll., New Malden
Dew, J.W. *l.* St. Catharine's S., Broxbourne
Evans, E. Llandyssul Intermediate S.
Goodhew, P.H. *a.* Bordeu S., Sittiugbourue
Griffiths, M. County S., Poutypridd
Harvey, W. *d.* Polytechnic Technical S.
Hemberow, R.N.C. Tauuton H., Brighton
²Keen, H.R. Oxford County S., Thame
LeBroeq, J. *a.* Oakwood House, Jersey
Newell, W.S. Milton Coll., Bexley Heath
O'Donoghue, W.G. *a.* St. Philip's Gram. S., Edgbaston
Parkyn, W.J. Harringay Park S.
Prescott, F.G. Belvedere, Hayward's Heath
Richardson, J. St. Joseph's C., Dumfries
Tyhurst, R.G. Uckfield Gram. S.
Vosper, W. *a.* Gram. S., Launceston
Weddell, H. Newcastle Modern S.
Woodhall, H.D.G. Polytechnic Interm. S.
Worrall, P. Taunton's Trade S., S'hampton
Wright, F. Wellington S., Heaton Moor

Arnell, H. St. Kilda's Coll., Waterlooville
Atkinson, F.J. *d.* Polytechnic Technical S.
Blake, C.F. Seaford Coll.
Branston, R. Taplow Gram. S.
Colman, D.A. Independent Coll., Taunton
Corbin, J.C. Taunton's Trade S., S'hampton
²Creedy, E.G. Deal Coll.
Davies, D.J. County S., Pontypridd
Davies, J.C. Almondbury Gram. S.
Fairhurst, A. *d.* Coll. S., South Shore, Blackpool
Harries, T.J. County S., Poutypridd
Hibbert, W.L. Gram. S., Southwell
²Hiuton, G.B. St. Catharine's S., Broxbourne
Horue, F.A. *h.* Gram. S., Streatham
James, J. Carmarthen County S., Pencader
Mason, R.S. Thauet Coll.
²Mecklenberg, G.T. Heston House, Hounslow
Morris, A.E. Oaklands, W. Didsbury
Mortimer, A.W. *d.* Holloway Coll., N.
Newbitt, J.E. Hall Gate S., Doncaster
²Newport, P. Holloway Coll., N.
²Overy, W.J. St. Margaret's C., Lowestoft
Page, H. Uckfield Gram. S.
Ray, C.H. Taunton's Trade S., S'hampton
Read, W.S. New Coll., Bexhill
Reader, S.J. Rye Gram. S.
Rogers, R.V. Oxford House, Brighton
Strawson, J.E. Bible Christian C., Shebbear
Tigar, B. *e.* St. Mary's C., Woolhampton
Vasquez, A. St. Stanislaus' Coll., Gibraltar
Watson, F.W. Caerweut House, Cardiff
²Weston, A.L. Private tuition
Williams, P. *a.* Whitchurch Gram. S.
Williams, W.E. Kingsholme S., Weston-s-M.
Wright, C.W. Laxton S., Ouudle

Balkwill, A. Kingsbridge Gram. S.
Beebee, H. Walsall Comuercial Coll.
²Champness, W. Gram. S., Altrincham
Crane, S. Ivy House, Fortess Road, N.W.
Duncau, A. Waltham Coll.
Faucheux, F.B. Manwood's Gr. S., Sandwich
Gale, A. Kingsholme S., Weston-s.-M.
Graham, J. Walsall Commercial Coll.
Graves, M. Froebel House, Stoke, Devonport
Haslett, H.J. Highbury Park S.
Hedley, W. Newcastle Modern S.
Hemming, A.V. *h.* Highfield, Wandsworth Common
²Johuson, B. Gram. S., Altrincham
Jones, R.E. County S., Pontypridd
King, W.S. Waterloo Coll., Liverpool
Knollys, F.R.A.N. Bordeu S., Sittingbourne
Lewellin, L. St. Kilda's Coll., Waterlooville
Lough, S.W. Deal Coll.
Orloff, P. Thanet Coll.
Rees, D.K. *d.* Cardiff Middle Class S.
Richards, P. Truro Coll.
Scruby, W. Waltham Coll.
Sisum, G.G. Tetbury Coll. S.

²Ajitsinghji, K.S. Private tuition
Amery, R. Woodgrange House, Forest Gate
Bain, R.S. Cathedral Choir S., Edinburgh
Bowker, H. Welliugton S., Heaton Moor
²Broadley, W.E. Sandwich S.
Cooper, W.F. Upper Hornsey Rise S.
Creasy, H. New Cross Coll. S.
Davies, G. *g.* Oxford H., Sutherland Av., W.
Fielding, W.F. *h.* Stanwell House, W. Hampstead
Gillott, A. *d.* High Pavement S., Nottingham
Gray, G.F. Modern S., Maidenhead
Gray, H. Fenwick Coll., East Dulwich
Griffiths, H.W. Clyde House, Hereford
²Harrison, E.W.B. Horsmonden S.
Hayes, H.G. Hounslow Commercial Coll.
Haynes, H.E. St. John's Choir S., St. Leonards
Jagleman, J. Holloway Coll., N.
Jones, M.L. Lymm Gram. S.
Lancaster, G.D. Malden Coll., New Malden
Leek, T.G. Whitchurch Gram. S.
Lofthouse, F. Commercial Coll., York
Matthews, E. Forest Hill Middle Class S.
Major, T. The Coll., Hendon
Parrott, A.W. Tenby Intermediate S.
Phillips, L.G. Harlesden Coll.
²Rawlings, W.T. Private tuition
Ryde, W.H. *a.* Coopers' S., E.
Tomasson, H.H. *a.* Wesley Coll., Sheffield
Willis, R.R. Newbury Gram. S.

Anwyl, W.G. Polytechnic Technical S.
Armitstead, J. Gram. S., Mirfield
Bennett, G. Winchester H., Gt. Yarmouth
Bostock, S.M. Witton Gram. S., Northwich
Brown, H.G. Oswestry Gram. S.
Brown, L.S. Argyll H., Nightingale Lane, S.W.
Bunting, H.W. Gram. S., Streatham
Collins, H. Beverley House, Barnes
Cordner, W.H. Uckfield Gram. S.
Cory, H. *a.* Gram. S., Launceston
²Downs, E.V. Kingsholme S., Weston-s.-M.
Glover, R. *h.* St. Bonaventure's Gram. S., E.
²Hainsworth, H. The Coll. S., Huyton
Higgins, T. County S., Pontypridd
Hill, C.V. Lancaster Coll., W. Norwood
Horner, S. Waltham Coll.
Humphreys, W.L. *d.* Oswestry Gram. S.
Jackson, T.H.D. Oswestry Gram. S.
Jarmy, F. *d.* University S., Rochester
Keasley, J.N. University S., Reigate
Knight, H. Victoria Coll., Hornsey Rise
Lane, H. High Pavement S., Nottingham
²Lewin, A.J. Oxford County S., Thame
MacKenzie, A. Hutton Gram. S., Prestou
Marlow, L. Laxton S., Oundle
Marrs, T.A. Elm Bank S., Nottingham
Nickinson, E.D. St. John's Coll., Brixton
Parker, E.L. *d.* Maindee C., Newport, Mon.
Reece, J.H. Gram. S., Streatham
Rioch, E.W. Newcastle Modern S.
Rylance, R. Uuiversity S., Southport
Searlett, H.R. Uckfield Gram. S.
Stephens, F.B. Truro Coll.
Touzalin, R.E. Bethany House, Goudhurst
²Wadlow, C.H. Victoria Hall, Manchester
²Wheeler, E.B. St. John's Coll., Grimsargh
Whittaker, F. Hutton Gram. S., Preston
Wilsou, W.G. St. Aloysius C., Hornsey Lane

Beardall, G.F. Belvedere, Hayward's Heath
Botterill, H. Waltham Coll.
²Christian, J.J. Private tuition
Cox, F.T. Old Palace S., Maidstone
Dale, H.E. Thanet Coll.
²Davies, E.V. Oxford County S., Thame
Downey, W.E. St. Joseph's Coll., Tooting
²Hall-Hall, A. Chigwell S.
Harry, G.O.M. *l.* Oswestry Gram. S.
Hornby, J.F. Coopers' S., E.
Hutchings, D.A. Sandwich S.
Milnes, C.F. Gram. S., Steyning
Mitchell, C. Wellington S., Heaton Moor
Rigby, F.H. St. Philip's Gr. S., Edgbaston
Rothwell, F.J. St. Philip's Gr. S., Edgbaston
Smith, D.M. Oxford House, Brighton
Spackman, W.L. Newbury Gram. S.
Sully, R.W. Dr. Morgan's S., Bridgwater
Tennent, G.M.C. Enfield H., Surbiton Hill
Vivian, J.F.G. High S., Camborne
²Wannell, W. Craven Coll., Highgate
Young, D.F. Bethany House, Goudhurst

Boswell, A.H. *h.* Gram. S., Streatham
Byrou, E. *d.* St. Bonaveuture's Gr. S., E.
Campbell, D.F. Forest Hill Mid. Cl. S.
Carden, H.C. Gram. & Coll. S., Carnarvon
Chapple, P.R. Montrose C., Brixton Hill
¹Cheshire, C. St. Catharine's S., Broxbourne
Cocker, T.H. Shrewsbury Coll.

BOYS, THIRD CLASS—*Continued.*

Ewin, A.H. Coopers' S., E.
Faweett, R.W.H. Oakwood House, Jersey
Franklin, H. Shrewsbury Coll.
Golding, A.P. Carter House, Deal
Green, G.R. Felix Coll., Lavender Hill
Hughes, A.H. West Cliff S., Ramsgate
Knapp, P. Brunswick House, Windsor
Lish, B.B. Sandyford Ac., Newcastle-o.-T.
Love, G. Gosberton Hall, Spalding
Lyne, E. Froebel House, Stoke, Devonport
Mallalieu, A.B. University S., Southport
Morris, T.E. Clyde House, Hereford
Richardson, F.A. Beverley House, Barnes
Ritchie, D. Wellington S., Heatou Moor
[2]Robson, F. Darlington Gram. S.
Ryder, J. Ilkley Coll.
Smith, F. St. Joseph's Coll., Dumfries
[2]Sugden, E.S. Private tuition
Thomas, D. Llandyssul Inter. S.
Thompson, C.O. *g.* Uckfield Gram. S.
Tucker, A. Beaconfield Coll., Plymouth
Wallington, G.C. Sidcup Coll.
Wallis, P.H. Handel Coll., Southampton
Wharton, L.R. Gram. S., Mirfield
Winder, T. Hutton Gram. S., Preston

[2]Baines, G. St. Joseph's Coll., Tooting
[2]Brodziak, L.S. Private tuition
[2]Fenton, C.M. The Coll. S., Huyton
Hains, C.A.P. Edward VI. Gr. S., Totnes
Innes, J.D.M.G. Highbury Park S.
Jackson, R.J. Truro Coll.
Lamb, R.J. Dr. Morgan's S., Bridgwater
Jarvis, A. Kingsbridge Gram. S.
[2]Johnson, E. Ormskirk Gram. S.
Jones, J. Llandyssul Inter. S.
Jones, J.E.S. Oswestry Gram. S.
[2]Lindridge, H.E. Horsmonden S.
Madden, J.P. St. Aloysius C., Hornsey Lane
Medhurst, H. *e.* Horsmonden S.
Negus, A. Belmore House, Cheltenham
Nockels, F.L. New Coll., Worthing
Parkes, H.W.J. *a.* Market Harboro' Gr. S.
Parkinson, H. *a.* Sidcup Coll.
Robinson, J.M. Modern S., Eccles
Russell, C.H. Manwood's Gr. S., Sandwich
Shelmerdine, W.D. Lymm Gram. S.
Smith, C.R. *a.* Horsmonden S.
[2]Speechly, A.J. Private tuition
Startup, G.E. *a.* Kingsbridge Gram. S.
Sykes, M. *d.* Private tuition
vanZeller, J.R. *e.* St. George's C., Weybridge
Wakeham, G.W. Hoe Gram. S., Plymouth
Webb, E.J. Milton Coll., Bexley Heath
White, R.S. Highbury Park S.
Wordsworth, H. S. Pallant S., Chichester

Brookes, C.H. Llandudno Coll.
[2]Bullock, H.T. Dudley House, Lee
Chislett, W.R. *h.* Woodstock Gram. S.
Clarkson, W. Hutton Gram. S., Preston
Fitzjohn, F. Taunton's Trade S., Southampton
Foulon, L.S. St. Aloysius C., Hornsey Lane
Fowler, R.M. Arnold Coll., Leigh
Gibbens, H.R. Taunton's Trade S., Southampton
[2]Hamond, A.D. Hadleigh H., Littleh'mpton
Harding, J.A. Kingsbridge Gram. S.
Jones, D. Carmarthen County S., Pencader
Leedam, W.E. Harrow Lodge, Liverpool
Lloyd, T. *a.* Carmarthen County S., Pencader
Mason, F. *a.* Oaklands, W. Didsbury
Mellor, P. Fartown Gram. S., Huddersfield
Oliver, G.H. Halesowen Gram. S.
Palmer, H. Belmore House, Cheltenham
Pierce, A. Oswestry Gram. S.
Pitt, E.R. Gram. S., Streatham
Plunkett, P.A.S. Lymm Gram. S.
Putland, G. *d.* Hardwicke House, Seaford
Selwyn, S. University S., Reigate
Smith, A. High S., Whitley
Tucker, C.C. Borden S., Sittingbourne
Walton, H.E. Belvedere, Hayward's Heath
Waters, A.H. Hoe Gram. S., Plymouth

Andrade, C.F.V. *a.* Great Ealing S.
Barling, J.E. Old Palace S., Maidstone
Barnsley, P.T. Wesley Coll., Sheffield
Brown, T.W. *a.* Newcastle Modern S.
Cooke, C.W. Stroud Green Gram. S.
Dalla Volta, R.L. Private tuition
Doherty, R. Malden Coll., New Malden
Edwards, F.T. Kingsholme S., Weston-s.-M.
Jenner, F.G.W. Uckfield Gram. S.
Newton, P. University S., Upper Tooting
Newton, W. Oxford County S., Thame
Schlegel, L.P. St. Aloysius C., Hornsey Lane
Spearing, H. Elmhurst S., Kingston-on-T.
Walker, C.S. Private tuition
Williams, C.J. *f.* Tonbridge S.

Brand, H.E. Harlesden Coll.
Brewster, W.J. Wilmslow Gram. S.
Brooks, R.F. Kingston S., Yeovil
Burton, E.W.B. *d.* 20 West Cliff, Preston
Coe, P.H. Independent Coll., Taunton
Cusworth, W.E. St. Philip's Gram. S., Edgbaston
Evelyn, W. Waltham Coll.
Huelin, C. Oakwood House, Jersey
Hussey, W.W. Kingston S., Yeovil
Locke, A.C.H. The Blue S., Wells
Nye, E. Horsmonden S.
Rowe, E.J. *a.* High S., Camborne
Samuell, A. Princes Road, Liverpool
Slater, L.A. St. Philip's Gr. S., Edgbaston
Spanton, H.B. Sandwich S.
Stephenson, W. Gram. S., Altrincham
Thomas, F. Llandyssul Intermediate S.
Visick, H.C. 5 Russell Crescent, Brighton
[2]Wallace, J.V. St. Joseph's Coll., Tooting
Watney, G.J. 38 Beckenham Road, Penge
Wilkinson, B.M. Dr. Morgan's S., Bridgwater

Adams, A. Rye Gram. S.
[2]Beddoes, E.J. 8 Friars Terrace, Ludlow
Cooke, W.B. Thorne Hill S., Blackheath
Gaynor, W. Beaconfield Coll., Plymouth
Harling, E. University S., Rochester
Hoskins, S.T. Truro College
[2]King, L.B. Private tuition
Meeze, E.H. Byfield House, Painswick
Redding, C.L. St. Joseph's Coll., Tooting
Roberts, O. Gram. & Coll. S., Carnarvon
Sinclair, J.O. New Coll., Worthing
Tall, C. Shrewsbury Coll.
Thomson, S.F. Horsmonden S.
Vincent, A.S.H. Coopers' S., E.
Waters, A.B. Horsmonden S.
Wroe, G. *a.* The Academy, Wakefield
Wyatt, W. Kingston S., Yeovil

Allen, W.H. Sandwich S.
Braithwaite, R.J. *e.* Coopers' S., E.
Brown, J.J. University S., Reigate
Bussy, C. Moldova H., Clapham Park Rd.
Colville, M.C. *a.* Rye Gram. S.
De Smidt, G. Kensington Park Coll., W.
Fowle, J.W. Gram S., Streatham
[2]Hedley, J.S Newcastle Modern S.
Keat, F. Waltham Coll.
Lindley, J. Gram. S., Mirfield
Major, F. Shrewsbury Coll.
Middleton, J.B. 20 West Cliff, Preston
Mills, L.R. Hornsey Gram. S.
Rice, J. Uckfield Gram. S.
Rogerson, H. Hutton Gram. S., Preston
Turner, M. St. John's Coll., Brixton
Young, W. Halesowen Gram. S.

Davies, J.T. Taunton's Trade S., Southampton
Laidler, H.G. Taplow Gram. S.
Lewis, A.J. Kingston S., Yeovil
Maffey, H.H. Handel Coll., Southampton
McLean, A. Walsall Commercial Coll.
Ottley, F.L. Highbury Park S.
Penhale, J.P.D. Independent C., Taunton
Pratt, W.S. Heston House, Hounslow
Swain, H.L. Victoria Coll., Hornsey Rise
Presswell, G.S. Edward VI. Gr. S., Totnes
Wardley, S. Cumberland House, Wye
Woodman, A.V. Gram. S., Bournemouth

Balkwill, R. Kingsbridge Gram. S.
Barrett, O.P. Arnold Coll., Leigh
Bond, A. Kingsbridge Gram. S.
Davin, T. Manor House Coll., Hastings
Dawkins, B.L. Waterloo Coll., Liverpool
DeCaen, R. Winchester H., Southampton
Drake, S. Woodgrange House, Forest Gate
Gammell, A.A. St. Aloysius Coll., Hornsey Lane
Greaves, R.H. Cardiff Middle Class S.
Hyatt, G.E. Borden S., Sittingbourne
McMullon, W.F. Taplow Gram. S.
Moon, W. Froebel H., Stoke, Devonport
Mooney, W.J. Carlton House, Jersey
Peall, G.F. Raleigh Coll., Brixton
Stephenson, R.H. Henry Smith S., Hartlepool
Taylor, L.W. Gram. S., Streatham.
[2]Wilkinson, E. Ilkley Coll.

Bankes, S.A. Liverpool Coll.
Brown, T. Hasland House, Penarth
Cave B. Cave, W.A. St. Catharine's S., Broxbourne
Davies, C. St. Philip's Gram. S., Edgbaston
Duuham, M. Gosberton Hall, Spalding
Fisher, L. Holloway Coll., N.
Foskey, A.B. Taplow Gram. S.
Griffiths, A.W. Oswestry Gram. S.
Ingram, A.S. Winchester H., Gt. Yarmouth
Langley, R.K. Sandwich S.
Langsford, W.H. Taplow Gram. S.
Nixson, F.K. Whitchurch Gram. S
Penny, R.W. Harlesden Coll.
Ratcliffe, J.H. Hutton Gram. S.
Smith, H.A. Clyde House, Hereford
Turner, F.B. Percy House, Deal
[2]Waind, F.N. Commercial Coll., York.

Devitt, H.J. St. Joseph's Coll., Tooting.
Dwane, J. St. Bonaventure's Gram S., E.
Etches, H.C.N. Oaklands, W. Didsbury
Fiddick, T.L. High S., Camborne
Golds, A.E. St. John's Choir S., St. Leonards
Hillyer, A.J. Upper Hornsey Rise High S.
Hughes, J.F. Montrose Coll., Brixton Hill
James, W.S. Douglas S., Cheltenham
Land, A.R. Willow House, Walsall
Lewis, L.F.G. Forest Hill Middle Class S.
Maginnie, A. Ilkley Coll.
Nielsen, H.R. Henry Smith S., Hartlepool
Perrée, N.J. Oakwood House, Jersey
Rogers, W.H. Kingston S., Yeovil
Sandham, P.R. Modern S., Chichester
Simmons, H.N. Manwood's Gr. S., Sandwich
Steggall, A.H. Horsmonden S.
Tansley, R.P. St. Margaret's C., Lowestoft
Valler, S.R. Peuwerris Gram. S., Falmouth
Walker, E.B. University S., Southport

Bernstein, A. Victoria Coll., Hornsey Rise
[2]Davies, L.E. Private tuition
Done, J.B.H. St. John's Coll., Grimsargh
Egleton, R.W. High S., Croydon
Salisbury, A.H. Kingsholme S., Weston-s.-M.
Shuttleworth, W.P. Coll. S., South Shore, Blackpool
Streets, T. High Pavement S., Nottingham
Ward, H.J.L. Taplow Gram. S.
Woodhouse, N.S. Belsize S., N.W.
Wroth, M.J. Cheveley Hall, Plymouth

GENERAL CLASS LIST—GIRLS.

(*For list of abbreviations, see page* 340.)

FIRST CLASS.—HONOURS DIVISION.

Ritchie, A.E. *s.a.f.ge.d.p.* Ladies' Coll., Wellington, Salop
Millard, L.J. *h.f.nh.mu.d.* Red Maids' S., Bristol
Griffin, D.L. *f.* Private tuition
Symonds, L.K. *a.f.sd.d.* Coll. S., Ealing Rd., Brentford
Benham, L.M. *e.h.f.* Stroud Green High S., Oakfield Rd., N.
Cooper, A.H. *f.l.d.do.* Q. Mary's S., Walsall
Creasor, L.E. *al.mu.* H. S., Stockton-on-T.
Calderara, E.L. *h.* Stroud Green High S., Oakfield Rd., N.
Thompson, M. *e.h.f.* Stroud Green High S., Oakfield Rd., N.
Körner, M.A.A. *f.ge.ch.* Hr. Grade S., Sunderland
Hocken, M.E. Stroud Green High S., Oakfield Rd., N.
Martin, E.M.L. *d.* High S., Stockton-on-Tees
Rutter, A. *e.* High S., Stockton-on-Tees
Sears, F.C. *f.nh.* The College, Goudhurst
Derrick, E.L. *e.* High S., Stockton-on-Tees
Burls, F.E.M. *f.* Freemen's Orph. S., Brixton
Vellacott, C.M. *f.do.* Steyne S., Worthing

FIRST CLASS.—PASS DIVISION.

Tyers, M. *f.* The Hollies, Gt. Malvern
Hammond, D. *f.* The Hollies, Gt. Malvern
Hickman, K.L. *f.* Manor Mount Coll. S., Forest Hill
Lommel, M. *f.ge.* The Hollies, Gt. Malvern
Tate, A. *d.* High S., Stockton-on-Tees
Pybus, I.E. *e.do.* High S., Stockton-on-Tees
Beckett, M.R.U. Private tuition
Falconer, J. *nh.* Salem House, Sunderland
Morgan, L.B. Abney Park Coll., N.
Mullett, L.N.C. Freemen's Orph. S., Brixton
Buckley, M.H. *s.f.* Coll. for Ladies, Boston Spa
Walmsley, A.M. *f.* Pendleton High S.
Falrbairn, M.M.R. *e.f.* Victory Terrace S., Coutham
Fayers, E.M. *f.mu.* Clarendon Coll., Clifton
Batchellor, K. *f.* 9 Kingsgate St., Winchester
Loxley, H.M. *f.* Lilford Coll., Scarborough
Hinds, L.M. Rye Coll. S.
Lloyd, A.G. *do.* Huntington S., Kington
Taylor, M. *f.ge.* The Hollies, Gt. Malvern
Carter, H.W. Cloverdale, Rochdale
Rutherford, A. *do.* Darlington High S.
Macnab, E.M. *f.do.* Glebe Place S., Clissold Park
Patching, G.E. *f.mu.* Nevill C., Tunb. Wells
Atkinson, E.A. High S., Stockton-on-Tees
Hickox, C. *do.* Cromwell House, Hogarth Road, S.W.
Dunman, M. Darlington High S.
Parke, A.W. *f.* Avon House, Southsea
Ismirides, M. *f.* English S., Pera
Jones, B. Bank House, Llandilo
Tilley, A.C. *f.* Clarendon Coll., Clifton
Chiazzari, N.L. *f.* Manor Mount Coll. S., Forest Hill
Carter, N. High S., Stockton-on-Tees
Clements, A.M. Rye Coll. S.
Gibson, E.M. *e.* Salem House, Sunderland
Parry, A. Carmarthen County S., Pencader
Cocks, I. Rutherford Coll., Newcastle-on-T.
Rycroft, M.M. *f.* Salem House, Sunderland
McConnochie, A.E. *mu.do.* Southolme High S., Whalley Range
Bairnsfather, B.E. *f.d.* Private tuition
Bolt, L. Towcester S.
Bossou, M.M. *f.* Fern Bank, Wandsworth Common
Arnold, A.B. 2 Percy Villas, Redhill
Couldery, E.W. *do.* Rye Coll. S.
Knott, L. *do.* Darlington High S.
Carr, E. 138 Rye Hill, Newcastle-on-T.
East, G. *f.* Sunny Bank, Wilmslow
Joyce, M.J. Private tuition
Saville, F.E. Salem House, Sunderland
Ross-Johnson, V. *mu.* Rilston S., Oswestry
Bishop, S. Guelph H., Walton, Som.
Butler, C.E. *f.d.* Durham H., Crouch Hill
Comper, M. *f.* Brownhill H., Southampton
Sadler, E.R. *f.* High S., Wells
Dobson, I.C. Toward Terrace S., Sunderland
Pengelly, B. *do.* Warwick H., Littleh'pton
Wilson, E. Ladies' Coll., St. Anne's-on-Sea
Marker, J. Bank House, Llandilo
Falconer, K. Salem House, Sunderland
Burnett, E.M. Brownhills H., South'mpton
Johnson, E. Toward Terrace S., Sunderland
Adamson, H. Darlington High S.
Hardy, W. Darlington High S.
Bedding, A.K. *sh.* High S., Maidenhead
Hallwright, B. *do.* Cumberland Coll., Aycock's Green
Fox, G.B. 138 Rye Hill, Newcastle-on-T.
McCandless, F.M. *f.* Gordonville S., Coleraine

SECOND CLASS.—1ST DIVISION.

[1]Dunn, H.J. Stroud Green High S., Oakfield Rd., N.
Stafford, E.B. *s.e.g.f.* Stroud Green High S., Oakfield Rd., N.
Hocken, D.J. *e.h.g.f.* Stroud Green High S., Oakfield Rd., N.
Day, E.A. *e.d.* Stroud Green High S., Oakfield Rd., N.
Pritchard, F.M. Royal Naval S., Twickenham
McCallen, J.E. *g.do.* Victoria C., Belfast.
Skelton, E.M. *e.f.d.* Pemberton Coll., Upper Holloway
McCracken, M.E. *e.f.* Victoria C., Belfast
Wilson, K.S. *g.ge.* Stroud Green High S., Oakfield Rd., N.
deCronenthall, M.J.E. *f.* 34 Warrington Crescent, W.
[1]Holder, B.L. Private tuition
[1]Greenway, M. Rutherford Coll., Newcastle-o.-T.
Henry, E. *e.f.* Clarendon Coll., Clifton
Dearden, E.C. *e.g.* Royal Naval S., Twickenham
Shannon, I.E. *h.g.* Avonbank House, Bath
Leonard, B. Taylor's Hill, Galway
Lydan, M. *e.* Dominican Convent, Galway

GIRLS, SECOND CLASS—*Continued.*

[1]Geoghegan, M. *f.do.* Dominican Convent, Galway
Raine, H. *ge.d.* Toward Ter. S., Sunderland
Sherris, G. E. M. *e.f.* Royal Naval S., Twickenham

Kimber, E. B. *e.d.* Gelston, Bexhill
Rowland, G. *e.* Coloma House, Croydon
Porter, G. J. *e.d.* Stroud Green High S., Oakfield Rd., N.
Philpott, M. E. *e.do.* Wimborne Minster C.
Kenyon, C. M. *e.mu.* Broad Oak Hall, Accrington

Hill, I. *s.do.* Victoria Coll., Belfast
Lycett, H. Konville High S., Salop
Wilkinson, H. J. G. *d.mu.* Private tuition

Barratt, A. I. *e.h.f.ge.* Private tuition
Craig, J. P. *f.do.* Clooney Ter., Londonderry
Smith, E. K. *e.d.* Stroud Green High S., Oakfield Rd., N.
Porter, M. *e.g.d.* Newcastle House, Lewes
Faram, F. M. *d.* Clareudon Sq. S. Leamington

Fox, E. M. Private tuition
Humphrey, C. E. *e.* 50 Heathfield Gardens, Chiswick
Lewis, D. *g.* Tavistock H., Weston-s.-M.
Massiah, I. *e.* N. Bristol S. for Girls

Goffe, E. T. *e.* St. Catharine's, Broxbourne
Newell, N. M. *g.do.* Wincham C., Cheshire
Winbush, W. M. *d.* Brondesbury High S.
Ingham, A. *e.* Moss House, Whitefield

[1]Grundlehner, C. J. *f.ge.* Brownhill's House, Southampton
[1]Pillow, M. J. *do.* Oxford Coll., Clacton
Sehlbach, B. *e.ge.* Manor Mount Coll. S., Forest Hill
Djounis, E. English S., Pera

Morton, E. M. *a.* High S., Stockton-on-Tees
Stark, E. English S., Pera
Aldhouse, A. F. *d.* The Vicarage S., Clapham Common

Coulter, K. J. *f.* Clarendon Coll., Clifton
Parry, E. J. *e.* County Interm. S., Narberth
Griffiths, L. W. D. Private tuition
Hayward, A. *e.* Tavistock H., Weston-s.-Mare

Buckle, M. *e.d.* St. Leonard's Ladies' C.
[1]Campbell, M. M. 115 Elswick Road, Newcastle-on-Tyne
Carter, H. R. *d.* High S., Stockton-on-Tees
Cave, C. M. *do.* Oxford Coll., Clacton
Forster, J. I. M. *e.* Melbourne Coll., Thornton Heath
Giles, E. F. *d.* Private tuition
[1]Ison, H. *f.* Granville Coll., W. Croydon
Panas, C. *e.f.ge.* English S., Pera
Smith, E. M. *e.* Laurel Rd. S., Liverpool

[1]Cogdon, A. M. *do.* Glebe Pl. S., Clissold Pk.
[1]Halls, E. J. *do.* Private tuition
Holmes, G. E. *e.* Southolme H., Whalley Range
Price, R. E. *e.* St. Leonard's Ladies' Coll.
Spurgeon, E. Le M. *e.a.* Lyndale C., Worthing
Skinner, E. S. S. Royal Naval S., Twickenham

Brookes, M. K. Lewisham Coll.
Dixon, B. E. 20 York Villas, Brighton
[1]Ford, E. D. 9 Kingsgate St., Winchester
[1]Tozer, E. M. The Vicarage S., Clapham Common
Wilson, K. Rye Collegiate School

[1]de Burgh, G. E. 81 Holland Park, W.
[1]Spurgeon, A. L. Manor House, Havant
Ironside, C. M. Private tuition
[1]Waller, F. Cliff Park High S., Southend

[1]Nicole, E. A. Private tuition
Peel, A. D. *e.* Sunny Bank, Wilmslow

Bannister, K. W. M. Skinner's S., Stamford Hill
Giles, E. L. Private tuition
[1]Parke, I. H. *d.* Avon House, Southsea

Acheson, A. *do.* Victoria Coll., Belfast
[1]Bulstrode, A. *f.* Private tuition
Smith, E. E. *e.* Nevill Coll., Tunb. Wells
Terry, S. *d.* Brownhills H., Southampton
Williams, E. C. *e.h.* County Inter. S., Brecon

Levy, J. *ge.* Germania Coll., Canonbury
[1]Tonkin, A. E. University S., Rochester

No. 2005 Private tuition
Goddard, F. G. *e.* Cambridge S., Tottenham
Lawson, G. *mu.* Abergeldie, Clifton
Powell, K. F. L. Abergeldie, Clifton
[1]Rowlands, M. Boughrood H., Brecon
Teague, V. H. *d.* High S., Maidenhead

Mitchell, A. *e.* Skinners' S., Stamford Hill
Stubbs, A. Skinners' S., Stamford Hill
Taylor, M. *d.* Brownhills H., Southampton
Whittington, E. *h.g.e.* Private tuition

Box, O. E. Girton House, Yeovil
Hammond, W. Green Bank S., Falmouth
Harman, A. E. Hastings High S.
Hewish, M. *e.do.* Haldon View, Exeter
Johnston, M. E. *f.* Victoria Coll., Belfast
[1]Monday, R. B. North Bank C., Croydon
Phillips, E. *e.* Felix High S., Lavender Hill
Simpson, G. A. *e.* High S., Stockton-on-Tees
[1]Turner, R. A. Cliff Park House, Southend

Bambridge, E. The Coll., Goudhurst
Dockray, E. Riversdale, Boston Spa
Hume, M. Coll. S., Feltham
Sawyer, K. Cleveland H., Lr. Clapton
Stephenson, L. C. E. *d.do.* Glebe Place S., Clissold Park
Wilkinson, V. 31 Brigstock Rd., Thornton Heath

SECOND CLASS—2ND DIVISION.

Hume, E. A. *e.* Coll. S., Feltham
Longley, A. Rye Coll. S.
Lovell, E. M. High S., Wells, Som.
Smith, E. M. *d.* People's Coll., Nottingham
[1]Taylor, A. M. *d.* Private tuition
Viggers, M. C. *e.* Fairview, Ashford, Kent

Finigan, D. *ge.d.* Private tuition
[1]King, A. L. *do.* Private tuition
Martin, M. E. Private tuition
Spencer, M. *e.* The Hollies, Gt. Malvern
Walkden, R. *e.d.* Moss House, Whitefield

George, E. Bank House, Llandilo
Guyatt, H. R. *e.* Portsea Coll., S.
[1]Lovell, A. L. High S., Wells, Som.
Nutman, M. Girton House, Yeovil
[1]Palmer, E. *do.* Cambridge H., Gipsy Rd., S.E.
[1]Talbot-Andrew, E. Salisbury House, Littlehampton
[1]Roberts, L. B. *do.* Glebe Place S., Clissold Park

[1]Bruce, M. B. Private tuition
Capleton, M. *do.* Glebe Place S., Clissold Park
Heath, W. B. Portsea Coll. S.
Sheppard, M. C. Private tuition

Clifford, H. *d.* High S., Wells, Som.
[1]Marsh, E. M. *f.d.* High S., Wells, Som.
Thomas, E. M. *e.* Ladies' Coll., St. Anne's-on-Sea

Cumes, E. A. Huntingdon H., Teddington
[1]Kirkby, M. *d.* Eastleigh, New Ferry
Ross, M. E. Coborn S., Bow Rd.
Wright, E. S. Victoria Coll., Belfast

Barber, L. M. *e.* Private tuition
Gudgeon, M. *e.* West Central Coll. S.
Thomaides, E. *e.* Sidgwick H., Hr. Bought'n

Counor, N. *do.* Brynderwyn S., Coleraine
[1]French, K. M. *do.* The High S., Gravesend
Kendon, J. M. *e.* The Coll., Goudhurst

Barron, S. Monk Bridge S., York.
Hart, A. I. *do.* Wincham Coll., Cheshire
Littlejohn, G. E. *do.* Portswood H., Southampton
Smart, M. L. Mountside H., Hastings

Allen, K. *e.* Private tuition
Budgen, H. St. James' Coll. S., Jersey
Crossley, I. Fartown Gr. S., Huddersfield
Fearon, F. *d.* Silverdale S., Oxton
Lambert, L. A. *d.* Heathleigh S., Horsmonden
Nielsen, C. A. *h.* Fern Bank, Wandsworth Common
Robinson, H. M. *a.* 6 Banks Ter., Darlington

Bullick, E. G. *do.* 4 Princess Gdns., Belfast
Gillett, M. F. *f.* Private tuition
Ledgard, F. M. Eastleigh, New Ferry
Porter, E. M. *e.* Sandholme, Oxton

Bolus, E. *e.* Skinners' S., Stamford Hill
Gillespie, L. J. Avonbank House, Bath
Stott, A. M. *e.* Broad Oak Hall, Accrington

Evans, A. M. *g.f.d.* The Oaks, Harrow
Dovey, E. M. Portsea Coll. S.
Dovey, Ethel M. Portsea Coll. S.
Tibbitts, R. E. Huntingdon House, Ely

Barrett, M. Cambridge H., Gipsy Rd., S.E.
Carpenter, S. M. *d.* Private tuition
Gracey, E. *e.* Victoria Coll., Belfast
Hogan, M. St. Mary's Conv., Newtownbarry
Knipe, F. M. Private tuition
Meyer, E. A. Skinners' S., Stamford Hill
Rowley, B. K. Brightbe Coll., Southend
Salomonowitz, R. *ge.* Scotch Mission S., Galata
Tasker, E. R. *e.* Rutherford Coll., Newcastle-on-Tyne

Carpenter, M. A. *e.* Clergy Daughters' S., Bristol
Carter, D. Z. The Hollies, Great Malvern
Casement, A. Brynderwyn S., Coleraine
Chattell, K. V. St. Leonard's Ladies' Coll.
Russell, C. M. The Ferns, Hassocks
Savage, M. E. Onslow Hall, S. Kensington
Stevens, M. M. *e.g.* Kindinga C., Ilfracombe

Ballantyne, I. H. *e.* Manor Mount Coll. S., Forest Hill
[1]Budgett, B. S. *f.* Private tuition
Jones, M. A. *d.* Clifford House, Moseley
Lloyd, C. M. Bank House, Llandilo

Barrett, J. O. Palatine Coll., Camberwell Grove
Burrows, M. E. The Crescent S., Taunton
[1]Cawley, V. M. Lynsted Ladies' S., Greenstreet

Coxon, J. L. *d.* Anglo-Fr. C., Up. Norwood
George, M. Bank House, Llandilo
Griffiths, J. E. L. *e.* Private tuition
Kean, M. A. Convent S., Seaforth, L'pool
Wade, E. M. The Hall, Montpellier, Cheltenham

Balleny, H. *e.* Private tuition
Miller, E. G. People's Coll., Nottingham
Pennington, C. E. Collingwood Coll., Lee
Phillips, E. Holborn Estate Mid. Cl. S., W.C.
Wallis, M. College House, Newbury
Wood, L. *e.* Fartown Gram. S., Huddersfield
Wynne, G. H. A. Skinners' S., Stamford Hill

Bull, G. E. *e.d.* Rilston S., Oswestry
Calcutt, A. The College, Goudhurst
Montgomery, L. F. *e.* Queen's Coll. Acton
Nielsen, E. S. Feru Bank, Wandsw'th Comm.
Swainston, J. Darlington High S.
Ball, N. A. M. Convent S., Southampton
Titterton, E. C. *e.* Huntingdon House, Ely

Binning, N. N. *e.* Beech House, Eccles
Bourichet, M. M. T. *f.d.* Twyford House, Kingsbridge
Bright, C. Skinners' S., Stamford Hill
James, M. A. Private tuition
Kearns, M. Broad Oak Hall, Accrington
Lee, A. M. *f.* Royal Naval S., Twickenham
Pfenniger, F. *d.* Coloma House, Croydon
Sibun, C. Ashdene Coll., Croydon
Young, F. M. Elson House, Leytonstone

Brunner, C. M. G. Seafield, Hove
Dowse, I. M. Lawn C., Shepherd's Bush Grn.
[1]Hookey, E. A. Holborn Estate Mid. Cl. S.
Merritt, F. A. *d.* Skinners' S., Stamford Hill
Mooney, L. Ursuline Conv., Blackrock, Cork
Pye, A. *e.* Girls' Coll. H. S., Lytham
Seager, B. H. Field House, Heaton Chapel
Wood, D. F. *d.* Abney Park Coll., N.

Appleton, M. 26 Finborough Road, S.W.
Gorse, G. M. Skinners' S., Stamford Hill
Hayne, F. C. *e.* Girton House, Yeovil
Macdonald, A. Brynderwyn S., Coleraine
Maclean, E. U. Private tuition
O'Sullivan, H. *g.* Ursuline Convent, Blackrock, Cork
Rushton, K. Broad Oak Hall, Accrington

Barclay, F. M. Dowus Park S., Herne Bay
Canavan, M. Convent S., Seaforth, Liverpool
Curryer, K. M. *e.* Woking High School
Greer, M. W. Archburn S., Belfast
Lubbock, L. M. *e.* St. Mary's S., Bungay

Allan, E. Moss House, Whitefield
Benjamin, C. *e.* Darlington High S.
Clark, J. G. Durham House, Crouch Hill
Drayton, E. High S., Wells, Somerset
Evans, M. Carmarthen County S., Pencader
Green, M. Brunswick House, Gravesend
Hosgood, B. E. M. Skinners' S., Stamford Hill
Jesty, S. Arundel House, Tisbury
Johnson, B. R. Chester St. S., Wrexham
Orbell, H. Fairlawn S., Newmarket

Busby, F. M. C. Kensington House, York
Francis, L. Felix High S., Lavender Hill
Goate, S. M. St. Mary's S., Bungay
[1]Jones, B. M. High S., Maidenhead
Murphy, M. Boughrood House Coll., Brecon
Ronaldson, W. *e.* Manor Mount Coll. S., Forest Hill

Chapman, H. E. Broomfield H. S., Whitefield
Davies, A. L. Teddington Coll.
Harding, E. Brownhills H., Southampton
Pierrepont, E. *e.* Coloma House, Croydon
[1]Wallis, M. L. Enfield, Weymouth

Churchill, E. M. *e.* Delamere House, Stamford Hill
Hounsell, J. M. 26 Finborough Road, S.W.
Jones, S. Bank House, Llandilo
McFadden, M. A. Archburn S., Belfast
Thompson, F. F. Harley House, Hereford

Bowman, K. Nevill Coll., Tunbridge Wells
Coxon, A. *e.* Magdalen Coll., Wainfleet
De la Courneuve, A. L. Tavistock House, Weston-super-Mare
Duncan, V. M. Private tuition
Fagan, R. *do.* St. Mary's Convent, Newtownbarry
Henning, C. S. *e.* Lawn Coll., Shepherd's Bush Green
Knight, G. W. Anby House, West Hackney
Mills, L. R. 9 Kingsgate Street, Winchester
Obel, E. K. Skinners' S., Stamford Hill
Tyers, W. A. 50 Heathfield Gdns., Chiswick
Weare, M. E. Convent S., Southampton

SECOND CLASS.—3RD DIVISION.

Abbott, D. 4 Lansdowne, Bideford
Fisher, E. M. County Inter. S., Brecon
Hodgson, M. E. 6 Banks Terr., Darlington
Holmes, E. F. High S., Tewkesbury

Barham, A. E. F. Westfield H., Gloucester
Brash, E. Castlegate S, Cockermouth
Davies, E. G. *do.* Field H., Heaton Chapel
Snelgrove, E. M. Corner House, Godstone

Hart, N. M. Mornington H., W. Kensington
McAulay, J. Convent S., Seaforth, L'pool

Francis, C. A. Clergy Daughters' S., Bristol
Jackson, I. L. Glanavon, Llandudno
Jesse, M. D. Balham S.
McClenaghan, L. Brookvale Avenue S., Belfast
Moore, E. W. Heidelberg Coll., Ealing
Street, K. J. H. Private tuition

Cottew, E. E. The Hall, Montpellier, Cheltenham
Kemp, C. N. Meredith House, Lichfield
McConnell, T. A. Victoria Coll., Belfast

Crossley, M. *e.* Girls' Coll. High S., Lytham
Dickstain, B. *d.* Skinners' S., Stamford Hill
Ramshaw, L. N. Convent S., Southampton
Thomas, M. D. County Inter. S., Brecon
Welch, E. E. St. Catharine's, Broxbourne

Andrews, C. Eton Park Coll., N.W.
Lismore, M. Convent of Mercy, Bristol
Sherris, D. E. Royal Naval S., Twickenham
Wharton, M. St. Mary's S., Bungay

Furniss, H. C. *d.* Skinners' S., Stamford Hill
Hurley, J. St. Mary's Conv., Newtownbarry
Maddox, E. F. Coborn S., Bow Road
[1]Maxted, A. S. M. Private tuition
Percy, E. L. Townley House, Ramsgate
Wilson, A. L. Vernon H., Lower Broughton

Bridgland, J. D. Elm Lodge, Petersham
Cates, E. Denmark Coll., Wimbledon
Peate, I. *e.* Fulford Field House, York
Vitalie, R. *ge.* Scotch Mission S., Galata

Franklin, M. 9 Kingsgate St., Winchester
Matthews, L. Elson House, Leytonstone
McMillan, E. H. Victoria Coll., Belfast
Oliphant, T. A. Private tuition

Powell, M. B. Hampton House, Redland
Preen, L. G. Vernon House, Lr. Broughton
Wood, R. C. *e.* St. Leonard's Ladies' Coll.

Birks, E. E. Coborn S., Bow
Fountain, G. Netley Coll., Ealing
Mason, L. K. Lynsted Ladies' S., Greenstreet
Neate, B. E. Oxford House, Leatherhead

Cook, M. St. Mary's S., Bungay
Cunningham, J. S. *do.* Clooney Terrace S., Londonderry
Jones, E. *eh.* Carmarthen County S., Pencader
Parsons, E. M. St. Helen's S., Streatham
Sweeting, G. *e.* Wesley Hall S., Castleford

Butler, E. M. Durham House, Crouch Hill
Clark, E. H. Betley Ladies' Coll.
Cracknell, O. L. *e.* Melbourne H., Clapton Sq.
Jack, E. Skinners' S., Stamford Hill
Marvin, E. R. 11 Stopford Place, Stoke
Paynter, D. A. Glengyle, Cheltenham
Whincop, M. B. Skinners' S., Stamford Hill
Blenman, N. Delamere House, Stamford Hill

Barker, N. Lyndale Coll., Worthing
Gould, L. A. Sutherland Coll., W.
Leuw, E. A. Alexandra Coll., Hastings
Newman, M. Convent S., Eden Grove, N.
Wood, E. W. *do.* High S., Maidenhead

Barton, E. St. Mary's Conv., Newtownbarry
Beatty, L. Archburn S., Belfast
Philp, S. E. O. Finsbury Pk. High S.
Sharpe, G. 1 College St., Rotherham
Wilshere, M. 31 Brigstock Rd., Thornton Heath

Harvey, H. B. High S., Wells, Som.
Olliffe, F. 35 Dulwich Road, S.E.

Husband, N. *do.* Tenby Intermediate S.
Nunn, L. A. The Cottage, Little Oakley

Bishop, A. D. Mayfield Lodge, Folkestone
Cupples, A. E. Victoria Coll., Belfast
Diplock, E. F. The Halve, Trowbridge
Ingram, F. M. *e.* Delamere H., Stamford Hill

Bridge, F. Farnworth House S.
Hoyle, S. Riversdale, Boston Spa
Luffe, A. M. 4 The Cedars, Landport

Bassadona, W. Tenby Intermediate S.
Broome, R. Old Trafford Coll.
Devereux, J. St. Mary's Conv., N'townbarry
Pelan, E. K. 1 Henrietta Terr., Belfast

D'Aguilar, E. R. 36 Grosvenor Place, Bath
Dunnett, A. M. Rilston S., Oswestry
Iorns, H. S. I. Avon Villa, Altrincham

Broadbent, S. L. Sidgwick House, Hr. Broughton
Doel, V. M. Private tuition

Parr, I. M. Beech House, Eccles
Rash, E. M. Old Gram. S., Botesdale

Davies, C. County Inter. S., Brecon
Reid, E. M. B. Rilston S., Oswestry

Allen, I. 70 Dyke Road, Brighton
Knowles, M. H. Skinners' S., Stamford Hill
Phillips, A. R. The Parks H. S., Minehead
Crouch, D. B. High S., Wanstead

THIRD CLASS.—1ST DIVISION.

[2]Ward, E. M. *e.g.* Toward Ter. S., Sunderland
[2]Puttick, E. *e.* The Ferns, Hassocks
[2]Henderson, M. M. Friends' S., Fritchley
[2]Longhurst, E. M. Heathleigh S., Horsmonden
[1]White, P. *do* Private tuition

GIRLS, THIRD CLASS—*Continued.*

[2]Howe, O. *e.f.* Chatsworth C., Stamford Hill
[2]Pitmon, A.E. Red Maids' S., Bristol
[2]Jeffreys, D.I. Wineham Coll., Cheshire
[2]Squire, P.B. *e.h.* Eden Coll., Eden Bridge
[2]Lockwood, V.L.
The Vicarage S., Clapham Common

Betts, E.M. *e.h.g.a.f.ge.d.*
Stroud Green High S., Oakfield Rd., N.
[2]Gibbings, E. N. Bristol S. for Girls
[2]Roberts, M. *d.* Elson H., Leytonstone
[2]Warner, I.E.T. *g.* Abergeldie, Clifton
[2]Austen, E.H. Rye Coll. S.

New, E.L. *s.e.h.g.a.eu.f.*
Stroud Green High S., Oakfield Rd., N.
Witthaus, F.L. *e.h.a.f.ge.d.*
Stroud Green High S., Oakfield Rd., N.
[2]Hawes, F. *d.* Anglo-French C., Hornsey

[2]Hilton, F.D. Fairlawn S., Newmarket
[2]Lyne, M.M. *e.* St. Audrie's S., Penarth
[2]Riddell, G.A. Victoria Coll., Belfast

Benham, D.E. *s.e.h.a.f.ge.*
Stroud Green High S., Oakfield Rd., N.
Robinson, E. *e.h.a.al.f.* Victoria C., Belfast
[2]Bartlett, M. *d.* Heidelberg Coll., Ealing
Gorkiewicz, W. *e.f.d.* English S., Pera

Davis, J.E. *h.a.f.ge.*
Stroud Green High S., Oakfield Rd., N.
[1]Foster, W.L.L. *f.* Granville C., W. Croydon
[2]Jones, M. Dominican Convent, Galway

Berry, E. *e.h.a.f.* West Green Coll., N.
[2]Fergus, M.R. *do.*
Brookvale Avenue S., Belfast
[2]Hodgson, J.G. *g.* Private tuition
[2]Jenkins, M. Bank House, Glastonbury
[2]Mills, H. *g.* The Coll., Goudhurst

Eaton, V. *e.h.a.al.f.g.*
Stroud Green High S., Oakfield Rd., N.
[2]Kempe, R. Ruthwell S., Barnstaple
Staveley, I.L. *e.h.g.a.d.*
Stroud Green High S., Oakfield Rd., N.

[1]Courtney, F.O.S. Longsight H., Southport
Gadsdon, L.M. *e.a.f.d.* 5 Clapton Sq., N.E.
[2]White, W.L. *d.* High S., Saltram Cresc., W.

Findlay, E.A. *e.h.g.a.f.ge.*
Coborn S., Bow Road
[2]Lancaster, J.E.
Mornington H., West Kensington
Morecroft, A. *g.a.al.*
Burscough House, Ormskirk

Johnston, M. *e.h.a.* Victoria Coll., Belfast
McDonnell, A. *e.al.f.do.* Victoria C., Belfast
[2]McDowell, F.A. *e.* 40 Wellington P., Belfast

Henry, J. *e.f.d.* English S., Pera
Lloyd, E.M. *h.g.a.* Bank H., Llandilo

Chrystal, M.S. *e.g.al.*
Stroud Green High S., Oakfield Rd., N.
Coombs, N.E. *e.a.* West Green Coll., N.
[2]Goldsworthy, E.M. Thelema C., Newquay
[2]Kealinge, G. *d.* Betley Ladies' Coll.
Scott, E.E. *g.ge.d.* Coolhurst S., Crouch End
[2]Tierney, K. Dominican Convent, Galway

[2]Botter, M. *f.* English S., Pera
[2]Fincken, M.E. *do.* Field H., Heaton Chapel
Graham, H.H. *s.e.h.g.a.f.ge.*
Coborn S., Bow Road
Graham, M.P. *a.al.ge.*
High S., Stockton-on-Tees.
[2]Jones, I.W. The County Inter. S., Brecon

Bird, J.H. *g.a.ge.* High S., Stockton-on-T.
Conigrave, A.J. *a.d.*
Greenland Villas, Wood Green, N.
Gowan, N. *e.g.a.d.* Endsleigh Coll., N.W.
[2]Higginson, C.B. Brookvale Av. S., Belfast
[1]Pike, E.M. Finsbury Coll., Camden Rd., N.
[2]Ross, W.C. Felix High S., Lavender Hill
Schmidt, L. *f,ge.* Private tuition
[2]Walsh, K.M. *e.f.* Franciscan Conv., Taunton

[2]Balkwill, M.H. Twyford H., Kingsbridge
Behar, S. *d.* English S., Pera
Card, E.A. High S., Salisbury
Laird, M.S. *e.a.f.do.*
Goodrich Road Board S., S.E.
[2]McIntosh, M. *f.ge.d.* Willesden High S.
[2]Russell, E.C. Victoria Coll., Belfast
Saunders, V.M. *g.a.f.ge.*
Stroud Green High S., Oakfield Rd., N.
Willmer, B.M. *d.e.*
Central Foundation S., Spital Sq., E.

Berry, E. *h.f.* West Green Coll., N.
[2]Chancellor, V.I. *e.* South End S., Castle Cary
[2]Evans, C.G.M. The Oaks, Harrow
Kettle, E. *e.a.al.* People's C., Nottingham
Neild, S. *e.a.d.* Broad Oak Hall, Accrington
[2]Whamond, G. Convent S., Seaforth, L'pool
[2]Wilson A. Stoke S. for Girls, Devonport
Wray, O.H. *e.h.* Stroud Gr. H.S., Oakfield Rd.
Smith, D.M. *f.ge.d.* Durham H., Crouch Hill

[2]Atkins, D.W. Private tuition
Binsted, K.A. *e.a.d.*
Grosvenor House, Forest Hill
Booth, M. *a.f.d.* Clarendon Coll., Bristol
[2]Budd, E.L Holywell C., Weston-s.-Mare
Burridge, G. *d.mu.* 2 Percy Villas, Redhill
Deane, A.C. *d.* Old Gram. S., Thame
Tomalyn-Potts, L.E.D. *e.h.f.a.* Priv. tuition

Harris, E.D. *al.*
Stroud Green High S., Oakfield Rd., N.

Meadows, E.A. *e.a.ge.* Coborn S., Bow Rd.
[2]Swan, F.E. Chatsworth H., Gt. Yarmouth
[2]Todd, M.A. Gordonville S., Coleraine
Woodruff, A.G. *a.al.*
Southolme High S., Whalley Range
Wright, A. *d.* People's Coll., Nottingham
Griffith, D.C. *a.al.*
Southolme High S., Whalley Range

Hinton, A.J. *f.a.*
The Vicarage S., Clapham Common
Ventham, H. *e.g.* Linwood S., Southampton

Feneran, A. *e.a.* 40 Wellington Pk., Belfast
Mayhew, C.I. *f.ge.* Camperdown, W. Norw'd
[2]Sparkes, W. Lyndale Coll., Worthing
[2]Winbush, D. Brondesbury High S.

[2]Brown, M.L.N. Private tuition
[2]Eedes, N. Mill Hill Coll., Eden Bridge
[2]Postlethwaite, N.L. Private tuition
Schneider, C.M. *e.* Skinners' S., Stamf'd Hill
Tebbutt, M. *s.d.* The Vicarage S., Clapham
Turner, H.L.M. *h.*
Greenland Villas, Wood Green, N.
[2]Wyatt, A. Vernon House, Lr. Broughton

Gardner, K. Highfield, Blackpool
Groat, E.L. *h.d.* Durham H., Crouch Hill
[2]Jenkins, E.L. *c.*
Melbourne Coll., Thornton Heath
Leder, F.C. High S., Salisbury
Oldridge, V.M.A. *d.*
The Vicarage S., Clapham Common
Thomas, E.C. *ge.*
Stroud Green High S., Oakfield Rd., N.
Watson, E.A. *e.al.eu.* Victoria C., Belfast

Fossey, M.M. *ge.*
Lawn Coll., Shepherd's Bush Green
[2]Hartley, J.M. Harrow Middle School
Musk, D.E. *d.* London C. Gr. S., Holl'w'y Rd.
[2]Reidy, M. Dominican Conv., Galway
White, M.F. *ge.d.* Private tuition

Beckmann, M.D. *s.h.ge.*
Stroud Green High S., Oakfield Rd., N.
Black, J. *e.a.* Convent S., Seaforth, Liverp'l
Catchlove, A.F. *h.a.do.*
Goodrich Road Board S., S.E.
[1]Draper, F.G. *do.* Private tuition
Elliott, E. *a.* High Pavement S., Nottingham
Gilpin, F.M. *s.a.* Alwyne Coll., Canonbury
[2]Kitchen, B.G. Fartown Gr. S., Huddersfield
Moore, E.W. *e.a.f.* Summerland H., Topsh'm
[2]Morice, M. Fern Bank, Wandsworth Comm.
Shorter, K.M. *e.g.f.*
Stroud Green High S., Oakfield Rd., N.
Smith, L.A. *a.do.*
Goodrich Road Board S., S.E.

[1]Davis, A.L. Ballina House, Brixton Hill
Howling, E.M. *g.*
The Hall, Montpellier, Cheltenham
Kay, E. *a.d.* Moss House, Whitefield
Macpherson, J. *do.*
High S., Saltram Crescent, W.
[2]Melville, A.I. *d.*
Skinners' S., Stamford Hill
Tucker, M.M. *e.a.* Ebrington H., Exeter
Waldron, D.C. *e.a.do.*
Goodrich Road Board S., S.E.
Wilkinson, E. *d.* Goodrich Rd. Board S., S.E.

Claxton, H.W. *s.e.g.* Huntingdon H., Ely
Fieldhouse, E. *e.mu.* Gavine H., Portsmouth
Jones, E.M.
Stroud Green High S., Oakfield Rd., N.
[2]Lewis, E.A. *d.* High S., Saltram Cresct., W.
[2]Pratt, M.F. Cashiobury House, Southend
Rose, D.S. Old Gram. S., Thame
Saddler, E.J. North Bristol S. for Girls
Salomon, L. *e.d.* Anfield Coll., Liverpool
White, F.G. *a.d.* Skinners' S., Stamford Hill

Balkwill, E. *e.d.* Twyford H., Kingsbridge
Casey, E.M. *a.d.* Rye Collegiate S.
Kelly, M. *a.* Convent S., Seaforth, Liverpool
Ländler, V. English S., Pera
Mallet, E.W.E. *g.e.* 81 Holland Park, W.
[2]Pimm, B.M.M.H. *e.*
Ingleside Coll. S., Exmouth

Andrew, M.E. *g.* Park H., Peel Causeway
Butler, G. Durham House, Crouch Hill
Chilton, M. *e.al.*
High Pavement S., Nottingham
Drummond, E. *a.*
Warwick House, Poulton-le-Fylde
[2]Evans, E.O. Pontypridd County S.
[2]Harold, M. Convent S., Seaforth, Liverpool
[2]Keene, E. Leaholme Coll., Cirencester
[2]Saunders, G.A. North Bristol S. for Girls
Teed, L. *sh.* Greenland Villas, Wood Grn., N.
[2]Warnock, A. Avonbank House, Bath

Callander, J. *g.a.ge.* Coborn S., Bow Rd.
Coward, L.E. *h.a.d.*
Stapleton Hall S., Stroud Green
Hicklin, F. *d.* The Poplars, Tamworth
Keating, N. *eu.*
Ursuline Conv. Blackrock, Cork
Lismore, A. *e.a.f.d.* Conv. of Mercy, Bristol
Smith, E.C. *a.*
Broomfield High S., Whitefield

[2]Armitage, A.E.M. Brondesbury High S.
Borrow, A.H.S. *e.h.*
Newtown, St. John's, Chichester
Cook, M. *s.d.* Helworth H., Shepton Mallet
Devereux, M. *a.*
St. Mary's Convent, Newtownbarry

Dixon, F. *h.d.* Crieklewood Coll., N.W.
Henry, E.V. *do.* Brynderwyn S., Coleraine
Ormrod, M.A. *f.d.* Private tuition
[2]Pike, E.M. St. Mary's S., Bungay
Shaw, G. *g.* Fartown Gr. S., Huddersfield

Everett, J.L. Private tuition
Green, E. *g.a.eu.d.*
High Pavement S., Nottingham
Harrison, L.M. Fartown Gr. S., Huddersf'ld
Hawke, M.L. *e.* Bellevue, St. Austell
Mann, A.M.F. *h.a.* People's C., Nottingham
Paisley, A.D. *f.ge.* Private tuition
Phillipps, E.M. *e.f.d.* Dixfield S., Exeter
Piper, E.M. *e.* Toward Ter. S., Sunderland
[2]Sharp, E.I. Heathleigh S., Horsmonden
Spooner, E.M. *s.e.h.* Clovelly, Margate
[2]Taylor, A.F. Netley Coll., Ealing
Wane, A. *a.d.* Girls' C. High S., Lytham

[2]Addey, A. Ladies' Coll., St. Anne's-on-S.
[2]Boulay, E.C.E. *f.* Private tuition
Coleman, M. *e.g.al.d.*
High Pavement S., Nottingham
Francis, G.E.M. *d.* Bank House, Llandilo
Gadsden, M.C. *e.a.* Thanet Hall, Margate
Guerby, J.M.C. *e.f.*
The French Convent, Brighton
Hallam, F. *a.* 40 Haughton Rd., Handsworth
[2]Lidbetter, B. *d.* High S., Workington
[2]Lidbetter, H.M. *d.* High S., Workington
Rudorf, M.J. *ge.*
Stroud Green High S., Oakfield Rd., N.
[2]Wetenhall, M.G. Private tuition
Williams, A.F.M. *s.*
The County Intermediate S., Brecon

Barton, S. *d.* Up. St. Leonard's Ladies' C.
Davis, L. North Park Coll., Croydon
[2]Glanfield, E.G.L. Girls' Modern S., Torquay
Heighway, M.D. *d.* Heathwood, Marple
Kirkby, V. *e.d.* Eastleigh, New Ferry
Neild, N. *a.* Broad Oak Hall, Accrington
Price, B.M. Coborn S., Bow Road
Rose, F. Temple Square S., Aylesbury
Thomas, E.M. *h.g.* Burscough H., Ormskirk

[2]Bossom, D.A. Kindinga Coll., Ilfracombe
[2]Clark, B.U. Oriel House, Harpenden
Dobbs, A.M. *e.al.*
High Pavement S., Nottingham
[2]Harrison, M.H.
Morniugton House, W. Kensington
Liston, D.E. Wincham Coll., Cheshire
Meulenberg, M. *f.ge.d.*
Coloma House, Croydon
Phillips, D. Old Gram. S., Thame
[2]Prosser, T.G. *do.* Holloway Coll., N.
[2]Singer, E.E. N. Kensington Coll. S.
Wacher, M. Belle Vue, Herne Bay
[2]Weeding, D. Burleigh House, Addlestone

Cairns, A. The Mount, Belfast
[2]Christie, B.A.
Anglo-French Coll., Up. Norwood
Church, G. *d.* Holloway Coll., N.
Coleman, A.E. *e.l.* Private tuition
Dimmer, E. *f.ge.* The Hollies, Gt. Malvern
Dunkley, H. People's Coll., Nottingham
James, E *s.e.a.* County Inter. S., Brecon
[2]Keymer, A.M. Ladies' C., St. Anne's-on-Sea
King, D.J. High S., Burnham, Som.
Malone, M. *e.d.*
St. Mary's Conv., Newtownbarry
Morris, J.F. *e.h.d.* Clarendon Coll., Clifton
Robinson, M. Skinners' S., Stamford Hill
[2]Rudd, R.H. Broomfield High S., Whitefield
Tipping, F.K. *d.* People's Coll., Nottingham

[2]Benner, E. Fartown Gr. S., Huddersfield
Chappell, M. Abbey House, Llandilo
Colson, P.C. Wineham Coll., Cheshire
Cooper, E.A. Private tuition
Evershed, V.H. *e.* Old Gram. S., Thame
Kelly, C.M. *h.ge.*
Stroud Green High S., Oakfield Rd., N.
[2]Plumbridge, E.C. The Coll., Goudhurst
Ray, E. *e.g.* Convent S., Birkenhead
[2]Rimell, C. The Firs, Weston-s.-Mare
[2]Stevens, J. West Central Coll. S., W.C.
Wylie, W.J. *e.f.* Victoria Coll., Belfast

Bentley, A. Egerton H., Radcliffe
Davies, S.M. Bank H., Llandilo
Egan, M. Ursuline Conv., Blackrock, Cork
Field, G. *d.* Old Gram. S., Thame
[2]Harben, B. The Coll., Goudhurst
[2]Hoskins, L.E. Hadley H., Addiscombe
[2]Maxton, F.E. Beecheroft C., Richmond Hill
[2]McDonnell, M.
Convent S., Seaforth, Liverpool
[2]Muskett, M.J. Skinners' S., Stamford Hill
[2]Reid, J. Skinners' S., Stamford Hill
Scordo, K. *g.* English S., Pera
Taylor, E.M.
Intern. S., Clewer St. Stephen
Thomas, E. *a.* Raleigh Mid. Cl. S., S. New'gt'n
Turner, L.H. *e.a.ge.* Coborn S., Bow Rd.
Walsh, E. Ursuline Conv., Blackrock, Cork
White, M. High Pavement S., Nottingh'm

[2]Berry, D.J. Up. St. Leonard's Ladies' C.
Boake, I. *e.d.* Greystone, Yeovil
Coaker, M.I. *e.* Girton House, Yeovil
Froome, E.H. Ebrington House, Exeter
Giles, M.B. *ge.d.* Private tuition

[2]Martin, E.L. Oxford Coll., Claeton
Slater, E. High Pavement S., Nottingham
Stapleton, E.A. *e.a.ge.* Coborn S., Bow Rd.
[2]Williams, M. Pontypridd County S.

Adnum, E.E. *h.f.*
Greenland Villas, Wood Green, N.
Allen, E.L. Private tuition
[2]Baker-Munton, E.B.
Anglo-French Coll., Up. Norwood
Betty, M. High S., Burnham, Som.
Brockie, L. *e.*
Priory Mount S., New Brighton
Foster, C. *a.*
High Pavement S., Nottingham
[2]Griffiths, E.G.
Mornington H., W. Kensington
Leah, F.M. Claremont H., Stockport
Prosser, E.M. *s.* County Inter. S., Brecon
Tyers, M.K. *e.* 50 Heathfield Gdns., Chisw'k
Woodgate, B.M. *a.*
Skinners' S., Stamford Hill

Bacon, E.E. *d.* Raineliffe C., New Barnet
[2]Blakeman, E.M.M. Huntingdon H., Ely
Gooderham, M.E. *h.g.*
Old Gram. S., Botesdale
Hudswell, L.E. *ge.* Coborn S., Bow Rd.
Jenkinson, M.C. *e.*
King's Mount, Newark-on-Trent
LeBrocq, A.G.B. Zelzah House, Jersey
[2]McKee, R.I. Harlesden Coll.
Metté, I. *d.* Willesden High S.
Monk, L. *g.* Burleigh House, Addlestone
Purser, D.L. *f.* Private tuition
[2]Randall, G.H. South Croydon Coll.
[2]Reeve, N.McC. North Park C., Croydon
[2]Strouts, M. High S., Sittingbourne
Taylor, E. *a.* Ronton Vicarage, Eccleshall
Walker, A.M.
High Pavement S., Nottingham

[2]Addey, E.E. Ladies' C., St. Anne's-on-Sea
Agnew, E.M. *e.* Private tuition
Caffin, E.V.M. *a.* Fenwiek Coll., E. Dulwich
Clark, W.L. People's Coll., Nottingham
Cooke, A.C. *e.* Private tuition
Culhane, K. *e.* Dominican Conv., Galway
Duckett, C.A. Westview, Grosvenor, M'gate
[2]Foskett, C.C. E. Finchley Gram. S.
Hicks, M. *f.d.* Dixfield S., Exeter
[2]Hill, E.G.M.B. St. Mary's S., Bungay
Holt, E. *e.a.* Coborn S., Bow Road
Jollie, K. Private tuition
Lee, N.M. *g.a.* Westfield House, Gloucester
[2]Macfarlane, M Darlington High S.
Mulley, E.A. *a.*
Lynsted Ladies' S., Greenstreet
[1]Rickett, F. *do.* Private tuition
Ross, A. *e.* Breck Coll., Poulton-le-Fylde
Williams, A.F. *a.* Fairholme, Rhyl

Bates, E.F. Torrhill Coll., Hastings
Byrn, F. Private tuition
Duckett, E. *a.d.* High S., Wells, Somerset
[2]Hamer, M. Holloway Coll., N.
Kirk, E.H. *a.d.* Coborn S., Bow Road
Netherwood, M.R. *s.e.*
Fartown Gram. S., Huddersfield
Spencer, F. *a.* St. Margaret's Hr. Gr. S., Lee
[2]Suehe, M.C. Elm House, Ealing Dean
[2]Thomas, M. 35 Brompton Square, S.W.
Vale, D.H. Hughenden, Bexhill
Warner, E.C. *e.* Grosvenor H., Forest Hill
Watson, J.A.V. Victoria Coll., Belfast

[2]Arthur, C. Church Home, Dublin
Austin, A.C. Oxford Coll., Clacton
Binns, R.E. 65 Hoghton Street, Southport
[2]Carr, M. St. Mary's Conv., Newtownbarry
Catling, K.E. *d.* St. Mary's S., Bungay
Cullinane, A. *a.al.* Heathfield House, Cardiff
Dresser, A.G. *a.* Balham S.
Forteseue, L.F. *g.d.* Alexandra C., Hastings
Harman, D.F. *h.* Hastings High S.
Hobbis, G.M. *e.* Queen Anne's C., Southend
Hole, G.F. *a.* Skinners' S., Stamford Hill
Hornby, K. *e.* Wineham Coll., Cheshire
Lanyon, M. Ballina House, Brixton Hill
Little, L.M. *e.a.f.ge.*
Deerhaddun Coll., Brixton Hill
[2]Lucas, A.M. Portswood H. S., S'hampton
[2]Perrée, E.J. Vauxhall S., Jersey
Stratton, A. Cheltenham Public S.
Thompson, M.J. *e.a.* Girls' High S., Lytham
Weaver, E. *a.* Cheltenham Public S.
Wilson, M.E. *d.* Crescent Coll., York
Winstanley, J. *e.* Sibson Road S., Sale
Woodley, H. *a.* 31 Nutgrove Avenue, Bristol
Wood, G.E. *e.* Skinners' S., Stamford Hill

THIRD CLASS.—2ND DIVISION.

Adams, W.M. *e.a.* Grosvenor H., Forest H.
Arnold, M.A.M. *e.* Private tuition
[2]Baker, I.A. Ventnor House, Cardiff
Beever, E.M. Fartown Gr. S., Huddersfield
Binks, L.M. Seaton House, Mutley
Bond, M. Belle Vue, Herne Bay
Easton, A.M. *ge.*
Lawn Coll., Shepherd's Bush Green
Fretter, A. High Pavement S., Nottingham
Holtom, H.M. *e.d.* Penrith S., Stamford Hill
[2]Ince, L.N. 9 Kingsgate St., Winchester

GIRLS, THIRD CLASS—*Continued.*

Ledgard, D.W. *e.g.* Eastleigh, New Ferry
Lucy, L.F. *ge.* The Hollies, Great Malvern
²Montgomery, O.V. *e.*
Wellington Park House, Belfast
Paisley, M.F.D. Private tuition
Thomson, H. *d.* Wincham Coll., Cheshire
²Tinker, M. Farnworth High S.
²Twigge, C. *e.* Private tuition
Wainwright, M. Riversdale, Boston Spa
West Watson, B.C. Private tuition
²Weymouth, C. Salisbury H., Plymouth
Woollatt, W. *a.* People'sColl., Nottingham
²Worthing, M.F.
County Intermediate S., Brecon
Yates, L.D. *ge.* Ronton Vicarage, Eccleshall

Allison, E. Montreux House, Brondesbury
Barnes, L.H. *ge.* Private tuition
Buchanan, A. New Brighton High S.
²Chancellor, C.M. Townley H., Ramsgate
Clare, M. *d.* Manor Mt. Coll. S., Forest Hill
Eberhardt, M.G. *ge.*
Stroud Green High S., Oakfield Rd., N.
Edwards, G. Larchcroft, Redhill
Fitton, E.D. *e.* Vernon H., Lr. Broughton
²Garde, M. UrsulineConv., Blackrock, Cork
Llewellyn, C.A. *d.* Girls' Coll. S., Tetbury
²Nixon, E. Cloverdale, Rochdale
Renwick, J. *e.a.* Penrith S., Stamford Hill
²Robinson, W.L. Elson H., Leytonstone
Seatree, E. *d.* The Newlands, Bootle
²Tarring, M. Hyde House, Tollington Park
Weaser, E.F. *d.* Queen Anne's C., Southend

Birch, K. *d.* ConventS., Seaforth, Liverpool
Buckle, F. *a.d.* Up. St. Leonard's Ladies' C.
²Carley, B. St. Mary's S., Bungay
Davies, R.H. *s.a.* Huntingdon House, Ely
Dwyer, J. Heathfield House, Cardiff
Griffiths, E. *s.g.* Bank House, Llandilo
Jordan, K.E. TheVicarageS., ClaphamCom.
Mitchell, C. High Pavement S., Notting'm
Mulock, N. *ge.d.* Stretton H., Fleetwood
Palmer, C.J. *e.* City of Durham S.
Palmer, D. Cambridge H., Gipsy Rd., S.E.
Redmond, S. Church Home, Dublin
²Skinner, M.A.M.
Royal Naval S., Twickenham
²Thomas, P. Tenby Intermediate S.
Wilson, R. *d.* Mellor Lodge, Marple

Adams, E.B. People's Coll., Nottingham
Arnold, W.M. Private tuition
²Bagnall, M. Convent S., Seaforth, L'pool
Brierley, M.E. *e.d.* FieldH., HeatonChapel
Butler, M.L. *e.d.* 17 Bath Street, Frome
Collingwood, B. *d.*
London Coll. Gram. S., Holloway Road
Comerford, K. *e.a.*
St. Mary's Conv., Newtownbarry
Donelan, N. Dominican Conv., Galway
²Drury, M. Ladies'C., LittleQueenSt., W.C.
Duckworth, M.A.
63 Avenue Parade, Accrington
Forbes, M. High S., Burnham, Som.
Given, E.M. Gordonville S., Coleraine
Jones, M. *s.* The County Interm. S., Brecon
Levy, P.M. Penrith S., Stamford Hill
Narraeott, I.M. Victoria H. S., Forest Gate
Sharp, E.J. *a.d.* Anfield Coll., Liverpool
Smalley, E. Prospect H., West Hartlepool
Standring, D. *d.* Fern Bank, Harpurhey
Waller, V.M. *d.* Cliff Park S., Southend

Abbott, E. Finsbury Coll., Camden Road
Bygrave, E.C. Goodrich Rd. Board S., S.E.
Church, S.M. Bellevue, Herne Bay
Dale, H.C. *s.g.* Raineliffe C., New Barnet
Deacon, J.C. Rye Coll. S.
Doyle, M. *e.a.* St. Mary'sConv., N'townbarry
Duder, L. Totnes Girls' S.
Gough, E. Moseley Ladies' Coll.
Grout, E. W. Enfield High S.
Harman, A.M. AvondaleC., WinchmoreHill
²Hillman, E. 96 Stamford Hill, N.
²Kaltenbach, J. Heathfield House, Cardiff
²Kingsford, E.L.C. *do.* Private tuition
Morris, M. *ge.* Coborn S., Bow Road
Parkinson, E. *d.* Girls' High S., Lytham
Peall, D.A. Clovelly, Margate
Smith, H.M. Park House, Peel Causeway
Spooner, G.M. *a.* Finsbury Coll., Camden Rd
Tapply, K.G. Woodlands, Folkestone
²Watson H.A. Skinners' S., Stamford Hill
White, H.H. *d.* Bishop Auckland High S.

Baker, J.P. Raincliffe Coll., New Barnet
Bazley, M. *d.* The Halve, Trowbridge
Chambers, M. People's Coll., Nottingham
Djuke, M. *ge.* Scotch Mission S., Galata
²Draffin, A.A. Victoria Coll., Belfast
Evans, E.W. *a.* Totnes Girls' S.
Tarbridge, G. *a.*
Southolme High S., Whalley Range
Fawcett, M.McG. Bellevue, Herne Bay
Frankland, A.M.
63 Avenue Parade, Accrington
Fraser, F.E. St. Mary's S., Bungay
Goodman, V.M. *d.* FairlawnS., Newmarket
Heneberry, M.J. *a.d.*
St. Mary's Conv., Newtownbarry
McBryde, M. *e.* New Brighton High S.
Parkhouse, M. TwyfordHouse, Kingsbridge

²Parsons, S.J. Hoe Park S., Plymouth
Pater, E. Riversdale, Boston Spa
²Piton, L.M. Vauxhall S., Jersey
Rundle, M.H. *s.* St. ThomasC., Launceston
Scott, N.K. *do.* Goodrich Rd. Board S., S.E.
Thomas, G. Bank House, Llandilo
Thurlby, A.M. Up. St. Leonard's Ladies' C.
Turner, A. *a.* Ladies' C., St. Anne's-on-Sea
Vipan, M.M. *a.* Huntingdon House, Ely
Walker, M. *e.* HighPavementS., Nottingh'm

Allison, A.B. *a.f.* RaineliffeC., NewBarnet
Caton, M.E. Assembly Rooms, Poplar
Cook, M.K. *d.* The Hollies, Great Malvern
Eastwood, S.E. Riversdale, Boston Spa
Griffith, M.M. High S., Wells, Somerset
Griffiths, L.E. Highfield, Blackpool
Howatt, J.A. *e.*
Palatine Coll., Camberwell Grove
James, A.A. *e.* Huntingdon House, Ely
Jones, K.A. Hill House C., Haverfordwest
Jones, S. 1 Crystal Terrace, Blackpool
Lawrance, G.D. *e.h.* Endsleigh Coll., N.W.
Martin, L.M. Manor Mount S., Forest Hill
McCallen, K.M. Victoria Coll., Belfast
Paddick, F.D. University S., Rochester
Pearson, M. Fulford Field House, York
Rose, E.A. Old Gram. S., Thame
Shelly, A. *d.*
St. Mary's Convent, Newtownbarry
Wigley, E.M. *e.* 22HeywoodSt., M'nchester

Barugh, V. High S., Stockton-on-Tees
Brown, E.N. 10 London Rd., Portsmouth
Butler, B.H. *e.* Skinners' S., Stamford Hill
Clarkson, E.L. People's Coll., Nottingham
²Comer, G.C. *do.* GlebePlaceS., Clissold Pk.
Courtney, M. Church Home, Dublin
Dalton, C.E.A. Private tuition
Dixon, E. *e.f.* Marlborough H., Sheffield
Eastwood, M. *g.e.* Riversdale, Boston Spa
Gleadow, M. People's Coll., Nottingham
²Harvey, G.M. High S., Wells, Somerset
Holtby, E.M. *a.* Kensington House, York
Osborne, E.J. Centr'lFound.S., SpitalSq., E
Ploughman, A.G. *e.do.* Conv.S., South'pton
²Ridings, L. Cloverdale, Rochdale
Shirvell, E.S. Havelock House, Southsea
²Sweet, F. Tenby Intermediate S.
Teague, G.M. *e.* St. Audrie's S., Penarth
Thomas, M.E. Harley House, Hereford
Tweddle, E. Lawn C., Shepherd's Bush

Atkinson, E.M. Skinners' S., Stamford Hill
Barton, E. Victoria High S., Forest Gate
Crampton, L.C. Fairlawn S., Newmarket
Dixson, W.M.
Westview, Grosvenor, Margate
Falconer, W.F.
6 Ormonde Terrace, Cheltenham
Gamble, A.M. Victoria Coll., Belfast
Garrett, E. Victoria Coll., Belfast
Gollam, K. The Coll., Goudhurst
Hammond, I.R. Private tuition
Johns, B.F. Seaton H., Mutley
Jones, B.M. *e.* Skinners'S., Stamford Hill
Keelan, M. Convent S., Seaforth, Liverp'l
Kirkman, L. Tenby Intermediate S.
Moon, G. *e.a.d.* Raglan H., Brighton
²Phelps, A. St. John's Coll., Brixton
Rabbeth, M. Elgin C., Burlington Rd., W.
Read, B.M. *g.* Elson H., Leytonstone
Schrier, H.M. Cliff Park H., Southend
Slater, B. High S., Wells, Som.
Stubbs, F.E. Skinners' S., Stamford Hill
Thompson, E.M. *d.* Clifford H., Moseley
²Turner, L.M. HighS., SaltramCrescent, W.
Weston, H. Up. St. Leonard's Ladies' Coll.
²Wright, F.E. Coborn S., Bow Rd.

Allen, E.M. *d.* Moss House, Whitefield
Banbury, M.E. *a.*
St. Thomas' Coll., Launceston
Beecroft, J. Swan Lane S., Cheadle Hulme
²Fagan, J. St. Mary'sConv., Newtownbarry
Forrest, E.V. Royal Naval S., Twickenham
Gill, D.L. *d.* Twyford House, Kingsbridge
²Hayne, L.E. Clarendon House, Gosport
²Hyde, E. Bank House, Seaforth
Latham, G. Easthorpe, Mirfield
Lock, E. *d.* Coloma House, Croydon
²Maddin, E. Hyde House, Tollington Pk.
Roberts, M.E. The Newlands, Bootle
Seaborne, B.L. *d.* High S., Barnsley
Tucker, M. High S., Burnham, Som.

Bostock, E.M. Balham S.
Burton, F.E. *e.* Clarendon House, Gosport
²Clare, E. Farnworth Higb S., Bolton
Davies, G.E. Girls' High S., Bishopston
Feldmann, A. *ge.* Scotch Mission S., Galata
Firth, H. Hyde House, Tollington Pk.
Goldstein, H. *ge.* Scotch Mission S., Galata
Howard, A.M. High S., Downham Mkt.
Jackson, K.M. 1 Adelaide Ter., Liverp'l
Scudamore, K.M. Pontypridd County S.
Snape, A. *d.* Ellesmere Rd. S., Eccles
Solley, L.M. Stour House, Sandwich
Stewart, M.M. *d.*
Manor Mount Coll. S., Forest Hill
Thomas, N.M. Caerwent House, Cardiff
Woodroffe, D.E. *d.*
Up. St. Leonards Ladies' Coll.

Butler, M.G. Royal Naval S., Twickenham
Duck, E.L. Lyndale Coll., Worthing
Hawke, M. Bellevue, St. Austell
Hoy, H.M. Victoria Coll., Belfast
Leonard, C.E.
County Inter. S., Brecon
Mann, E.M. *e.a.* Summerland H., Topsham
Moore, G.W. Convent S., Southampton
Moylan, R. *d.*
St. Mary's Conv., Newtownbarry
Neate, K *e.a.d.* Oxford H., Leatherhead
Ruddle, A.A.
Bible Christian Coll., Shebbear
Smith, M.E.
Beachcroft Coll., Richmond Hill
Stockwell, H.
Manor Mount Coll. S., Forest Hill
Swanston, C.E. FinsburyC., CamdenRd., W
Thomas, A.M. Llandyssul Intermediate S.
²Trotter, M.E.
Palatine Coll., Camberwell Grove
Walker, M.B. Private tuition
Witheridge, O.P. The Coll., Goudhurst

²Bagshaw, B.
Sidgwick House, Higher Broughton
Ball, A.M. High Pavement S., Notts
Daglish, M.K. Alwyne Coll., Canonbury
Dalton, M.K. Balham S.
Earnshaw, A. *d.*
Ladies' Coll., St. Anne's-on-Sea
Fraser, M.M. St. Mary's S., Bungay
Harvey, K.C. Gelston, Bexhill
Holbrook, C.E. *e.* Woodford S., Southsea
Hughes, A. Convent S., Seaforth, Liverp'l
Lawton, L. *d.* Betley Ladies' Coll.
Nevett, E.M. Skinners' S., Stamford Hill
Packer, M. Inter. S., Clewer St. Stephen
Poole, S. *a.* Warwick H., Poulton le Fylde
Potts, G.M. Bryn Haulog, The Mumbles
Quinn, M., St. Mary'sConv., Newtownbarry
Roberts, R.T. *e.* 171 Bedford St., Liverp'l
Southwell, M.E. High S., Downham Mkt.
Stafford, O. W. Enfield High S.
²Stammers, M.L. St. Mary's S., Bungay
Tyrrell, M. Mountside High S., Hastings
Vanderpump, M. W. Enfield High S.
Whittell, H. *e.* Private tuition
Wright, D.S. Collingham, Newark

Barker, E.F. *d.* Dixfield School, Exeter
Canton, F. Private tuition
Coxen, A. New Brighton High S.
Cuthbertson, M.I. *e.*
Skinners' S., Stamford Hill
Fagan, G. *d.* St. Mary'sConv., Newtownbarry
Gaskins, E.L. Cheltenham Public S.
Gutmann, M. *ge.* Scotch Mission S., Galata
Gwyther, E. *e.f.d.* Cheltenham Public S.
Jeffery, M.P. Pontypridd County S.
Jones, L. *d.* New Brighton High S.
Lamb, E.M. Balham S.
Lyon, A.E. Cheltenham Public S.
²McDonnell. E. Conv. S., Seaforth. Liverpool
Perkin, A.M. *g.* St. ThomasColl., Launceston
Renouf, A.L. *a.* Vauxhall S., Jersey
Seymour, M. *a.* 4 Princess Gardens, Belfast
Stevens, L.M. Hughenden, Bexhill
Tournay, J. 5 Clapton Square, N.
²Wallace, A.B. Private tuition

Baggs, M.F. Manor Mount C. S., Forest Hill
Browne, C.P. People's Coll., Nottingham
Chudleigh, W.M. Wimbourne Minster Coll.
Cotter, M.F.E. Royal NavalS., Twickenham
Coulshaw, L. Holloway Coll., N.
Cronin, L. Dominican Convent, Galway
Davies, B. The College, Totnes
Dinn, F.M. *e.* Private tuition
Edgson, M. Elgin Coll., Burlington Rd., W.
Hamburger, E. *ge.* SeotchMissionS., Galata
Hoad, L.M. *a.* Alexandra Coll., Hastings
Inman, L. Gelston, Bexhill
Lowe, A.M. Inglewood Coll., Wylde Green
O'Rourke, E. *d.*
St. Mary's Conv., Newtownbarry
Pascoe, J.B. Bellevue, St. Austell
Pike, D.M. High Pavement S., Nottingh'm
Roussiano, M. ManorMountC.S., ForestHill
Sadler, C.A. 22HeywoodStreet, Manchester
Saddler, M.I. North Bristol S. for Girls
Tarrant, J.K. *a.* Inter.S., ClewerSt.Stephen
Thomson, S.C. *d.* Girls' Coll. S., Tetbury

Allen, J. *e.* Private tuition
Baker, A.M. University S., Rochester
Barr, L. Elson House, Leytonstone
Bouts, M.A. Benhilton Coll., Sutton
Bridgeman, G.E. Townley H., Ramsgate
Colley, H.A.M. The Coll., Goudhurst
Demorest, J. Harlesden Coll.
Ensor, E.V. *e.* Arundell House, Tisbury
Goad, E. Salisbury House, Plymouth
Grimwood, E.
Ursuline Convent, Blackrock, Cork
Hirst, G.S. Oak Hill S., Huddersfield
Hughes, A.M.K. Private tuition
Hughes, M.K. PrioryMt.S., New Brighton
Johnson, C. Priory S., Warrington
Kennedy, F.
Lynstead Ladies' S., Greenstreet
Kennedy, M. *a.* Convent S., Birkenhead
Loe, J.F. *e.a.* Skinners' S., Stamford Hill

London, A. Salisbury House, Plymouth
²Poles, A.M. Up. St. Leonard's Ladies' C.
Rowlands, L.M. HillHouse, Haverfordwest
Smith, A. Prospect House, Bowdon
Thomson, E. Wincham Coll., Cheshire
Turner, E. *e.* Beaufort Villa, S. Norwood
Walker, E.M. Burnham H., E. Bridgford

Adkins, E. Brownlow High S., Liverpool
Andrew, R. *f.* Toward Ter. S., Sunderland
Bull, E.L. *e.* Victoria High S., Forest Gate
Dixon, F. The Hill S., Pickering
Gibson, M. UrsulineConv., Blackrock, Cork
Horne, W. New Brighton High S.
Leveritt, N. *d.* Raglan House, Brighton
Marshall, B. TowardTerraceS., Sunderland
Schölzig, E. Hyde House, Tollington Park

Brock, C. Stoke Newington High S.
Bull, E.M. Private tuition
Casement, K. Brynderwyn S., Coleraine
Davidson, M. St. Hilda's Coll., Hexham
Davies, A. Llandyssul Intermediate S.
Edge, L. Holloway Coll., N.
James, H.T.M. Llandyssul Intermediate S.
Joyce, H.G. Private tuition
King, R. High S., Burnham, Som.
Lee, E.D. 171 Bedford Street, Liverpool
Leeming, E.M. *e.* Thanet Hall, Margate
Mallett, A.M. Montreux H., Brondesbury
Mills, G.M.
The Hall, Montpellier, Cheltenham
Milner, M. 38 Beekenham Road, Penge
Panton, H.E.
Manor Mount Coll. S., Forest Hill
Sears, G.E. The Coll., Goudhurst
Stedman, I.R.
Palatine Coll., Camberwell Grove
Watson, E.A. *d.* High Pavement S., Notts
Westwood, G.L. Prospect H., Stechford
Whitehead, F.A. University S., Rochester
Williams, E.B. *a.* Pontypridd County S.
Willis, E. Betley Ladies' College

Brome, B. Convent S., Eden Grove, N.
Doyle, A. *e.* St. Mary'sConv., Newtownbarry
Kersey, F.L. Eton House, Cheltenham
Pounsford, M. 38 Beekenham Road, Penge
Ritchie, M.A. Gordonville S., Coleraine
Stanner, A. High Pavement S., Nott'ham
Topham, K. ChatsworthH., Boroughbridge
Turner, F. Broomfield, H. S., Whitefield
Weighell, M.A.B. MowbrayTerr.S., Thirsk
Wickham, L.M. Elson House, Leytonstone

Bayliss, V. 70 Dyke Road, Brighton
Bushell, M.A. *a.* Hill H. C., Haverfordwest
Corbishley, M. *d.* Coloma House, Croydon
Finley, E. Church Home, Dublin
Hanbury, G.M.L. *e.* Southgate H., Devizes
Hughes, N. Taylor's Hill, Galway
Hurley, L. Heathfield House, Cardiff
Laffoley, H. Six Roads S., Jersey
Latimer, M.H. *d.* Willesden High S.
Mack, D. Riversdale, Boston Spa
Middlemiss, A.M. Private tuition
Price, G.M. *e.* Skinners' S., Stamford Hill
Renfry, H.M.A. RoyalNavalS., Twick'ham
Robertson-Shersby, M.M.C. Priv. tuition
Sherwin, L.M. Heathwood, Marple
Stratton, E.S. Hill House, Haverfordwest
Sullivan, M. Taylor's Hill, Galway
Talbot, M.L. Skinners' S., Stamford Hill
Taylor, E. Riversdale, Boston Spa
Turnell, S. *d.* New Brighton High S.
Whatley, G.E. Cheltenham Public S.

THIRD CLASS.—3RD DIVISION.

Bull, A.J. Eastthorpe, Mirfield
Cook, E.K. Cheltenham Public S.
Dodgson, M.A. *e.a.* FieldH., HeatonChapel
Dodsley, C.J. People's Coll., Nottingham
Garde, M. Ursuline Conv., Blackrock, Cork
Gilbert, A.M. High S., Wells, Somerset
Gurney, A.E. Hughenden, Bexhill
Harpur, C.M. *a.* Thanet Hall, Margate
Henwood, E.A. *d.*
Upper St. Leonard's Ladies' Coll.
Maggs, W.A. Temple Square S., Aylesbury
McNaught, H.A. *d.* Elson H., Leytonstone
Neate, I.G. Private tuition
Page, M.E. *e.* Victoria S., Eccles
Powne, O.M.G. Rilston S., Oswestry
Salter, N.M. Torrhill Coll., Hastings
Stammers, N.G. St. Mary's S., Bungay
Williams, A.M. Llandyssul IntermediateS.

Adams, D. The Laurels, Nottingham
Astbury, F.E. Huntingdon House, Ely
Barker, M.W.
Manor Mount Coll. S., Forest Hill
Clark, M.E. *d.* Grammar S., Willesden
Franklin, I.E.G. Bellevue, Herne Bay
George, C.E. LynstedLadies'S., Greenstreet
Hawking, A.C.
Chatsworth House, Boroughbridge
Loxham, V.L. 171BedfordStreet, Liverpool
Webb, M.D. *d.* Skinners' S., Stamford Hill
Wellicome, F. Darlinghurst, Gt. Marlow
Wood, K.E. High S., Sittingbourne

GIRLS, THIRD CLASS—*Continued.*

Coveney, E. Townley House, Ramsgate
Coope, E. Farnworth High S.
Fowle, F.E. Lewisham Coll.
Hassell, M. *d.* London Coll. Gram. S., Holloway Rd.
Jones, M.L. Royal Bay Terrace S., Jersey
Mathias, M.V. Hill H. Coll., Haverfordwest
Moore, E.C.H. *d.* Manor Mount Coll. S., Forest Hill
Morris, J. *d.* Hill H. Coll., Haverfordwest
O'Connor, M.E. Conv. S., Seaforth, Liverp'l
Peetz, M.K.E. Manor Mount Coll. S., Forest Hill
Portlock, W. Abney Park Coll., N.
Read, E.M. 3 Belgrave Villas, Lee
Rouston, E.M. Marlborough H., Sheffield
Taylor, M.E. Elson House, Leytonstone
Webb, J.C. Guelph House, Walton, Som.
[2]Woodgate, N.E. Skinners' S., Stamford Hill
Yoakley, L. Church Home, Dublin

Anderton, E. *d.* Girls' High S., Lytham
Batten, W.E.S. Northpark Coll., Croydon
Bell, R.M.F. Elson House, Leytonstone
Brennan, T. Ursuline Conv., Blackrock, Cork
Brothers, E.S. Woking High S.
Dean, G.M. Aucklands S., Manchester
Freer, E.M. Thornton House, Grays
Higginbottom, E.T. Ladies' Coll., St. Anne's-on-Sea
Taylor, I.M.C. 20 York Villas, Brighton
Warren, N.G. 121 Evering Road, Stoke Newington
[2]Wragg, M.F. Delamere H., Stamford Hill

Annett, H.M. The Coll., Goudhurst
Davies, I. Beechcroft Coll., Richmond Hill
Hitchcock, L.M. Newland S., Tonbridge
Leahy, L. Ursuline Conv., Blackrock, Cork
Lockley, F.M. Thurlstone, Penistone
Steel, E.M. The Hall, Montpellier, Chelt'n'm
Tolhurst, M. The Coll., Goudhurst
Tozer, N. Beechcroft Coll., Richmond Hill
Wharton, E. Private tuition

Armstrong, C. *e.* 70 Dyke Road, Brighton
Cullis, E.M. Leaholme Coll., Cirencester
Elsden, A. *d.* Hertford S. for Girls
Emerson, M.I. Claremont House, Stockport
Green, L.M. The Orchards, Canterbury
Jacob, M.E. Netley Coll., Ealing
Lambert, E.M. Heathleigh S., Horsmonden
Munn, E. University S., Rochester
Nicholson, L. Toward Tce. S., Sunderland
Oxley, E.M. Gresham Coll., Brixton Hill
Parsons, F.A. Durham House, Crouch Hill
Ryan, M.A. Ursuline Convent, Blackrock, Cork
Valpy, L.H. Royal Bay Terrace S., Jersey

Barker, E.M. Royal Naval S., Twickenham
Benson, E.E. Huntingdon House, Ely
Evans, E.L. 171 Bedford Street, Liverpool
Fair, F. Church Home, Dublin
Griffiths, M.C. Private tuition
Hall, B. Fern Lea, Sunderland
Hallatt, M.E. *d.* Vernon H., Lr. Broughton
Harris, E.R. Newland S., Tonbridge
Hewitt, E.M. *e.* Skinners' S., Stamford Hill
Hone, D. University S., Rochester
Lupton, G. Broad Oak Hall, Accrington
Mulqueeney, M. St. Ethelburga's, Deal
Preston, D. Marlborough House, Sheffield
Warren, M.H. Old Gram. S., Botesdale
Wilson, K.I. Newland S., Tonbridge

Curtis, M. The Laurels, Nottingham
deMedewe, E.A. Abney Park Coll., N.
Duckett, E.M. Ladies' C., St. Anne's-o.-S.
Jackson, M.C. Willesden High S.
Luck, M. Heathleigh S., Horsmonden
Mooney, E. Royal Bay Terrace S., Jersey
Powell, E. Boughrood House C., Brecon
Sansum, D.E. 121 Evering Rd., Stoke Newington
Smith, L. Elm House, Ealing Dean
Widger, M. *d.* Convent S., Seaforth, L'pool
Williams, A.D. Hill H. C., Haverfordwest

Allen, M. Private tuition
Applegate, M.W. The Halve, Trowbridge
Bazzone, M.A.L. Deerhaddun Coll., Brixton Hill
Collingwood, M.A. London Coll. Gram. S., Holloway Road
Elliott, F.G. St. Mary's S., Bungay
Lynch, B. Ursuline Conv., Blackrock, Cork
Russell, G.St.J. Penarth Coll.
Sellers, A.G. Private tuition
Sparke, M. St. Hilda's Coll., Hexham
Swift, E.M. 171 Bedford Street, Liverpool
Waters, K. Elgin College, Burlingt'n, Rd. W.
Wilson, G.M. Thurlstone, Pennistone

Boys, F. Hertford S. for Girls
Heenan, L.E. Private tuition
Lewis, W. Pontypridd County S.
Lowther, E, Raglan House, Brighton
Tranter, A.V. The Halve, Trowbridge
Wilkins, A. Cheltenham Public S.

Amy, L.B. Les Augres S., Jersey
Atkinson, M.N. University S., Rochester
Davies, A. County Inter. S., Brecon
Edwards, A. *e.* County Inter. S., Brecon
France, M. Easthorpe, Morfield
Gunning, F.M. Red Maids' S., Bristol
Hobbs, G. 121 Evering Rd., Stoke Newington
King, M. Breakspear Coll., Brockley
LeGresley, E. *f.* Glenrose S., Jersey
Newton, M.F. Skinners' S., Stamford Hill
Preen, E.M. Vernon H., Lr. Broughton
Reading, A.E.J. Townley House, Ramsgate
Richmond, D.L. Melbourne H., Clapton Sq.

Allen, N. 70 Dyke Road, Brighton
[2]Barker, J.B. Skinners' S., Stamford Hill
Cates, L. Assembly Rooms, Poplar
Charles, A.M. Pontypridd County S.
Coughlin, B. Heathfield House, Cardiff
Geere, E. Brunswick House, Gravesend
Hawe, J. Ursuline Conv., Blackrock, Cork
Hunter, A. St. Hilda's Coll., Hexham
King, F.M. Deerhaddun C., Brixton Hill
Leith, M. Skinners' S., Stamford Hill
MacDonnell, T. Conv. S., Seaforth, L'pool
Metcalf, M.A. Upland S., Newbury
Scarlett, M.M.S. Townley H., Ramsgate
Taylor, C. Hertford S. for Girls

Bentley, M. North Park Coll., Croydon
Dunn, M. Girls' High S., Bishopston
Fergus, J.D. Brookvale Avenue S., Belfast
Reekes, J.W. Cricklewood Coll., N.W.
Thompson, F.M. Kensington House, York
Thorpe, F. Girls' Coll. High S., Lytham

Arnold, G. Holloway Coll., N.
Cunningham, M. Heathfield House, Cardiff
Green, F. 31 Brigstock Rd., Thornton Heath
Howard, W. Pontypridd County S.
Jacks, D. Private tuition
Lamb, M.J. *a.* Wolsingham High S.
Leather, J.E.M. Private tuition
Lyne, E.A. *e.* St. John's Lodge, Cheltenham
Newson, F.E. Elson House, Leytonstone
Williams, G.M. Darlinghurst, Gt. Marlow

Bamber, V.R. Private tuition
Bayton, E.S. Oakwood House, Brighton
Bazin, W.M. Private tuition
Donovan, A.L. Twyford H., Kingsbridge
Flaven, G. Ursuline Conv., Blackrock, Cork
Frankham, E.E. 17 Bath Street, Frome
Hardman, E. Cloverdale, Rochdale
Lawton, M. Ladies' Coll., St. Anne's-on-S.
Lloyd Jones, D. Fairholme, Rhyl
Mather, E.B. Egerton House, Radcliffe
Rowlands, M.J. Coll. S., Oswestry
Sanders, M.A. *a.* Glenarm S., Moseley
Sankey, M. Priory S., Warrington

Cordner, M. Toward Terrace S., Sunderland
Hart, E. Ballina House, Brixton Hill
Rodier, E. Norwood, Withington
Shore, W. Ashleigh H., Sutton-in-Ashfield
West, M.K. 9 Kingsgate St., Winchester

Byrde, E.W. Bryn Haulog, The Mumbles
Farrell, C. Victoria High S., Forest Gate
Fountain, A.L. Lewisham Coll.
Rash, A.L. Old Gram. S., Botesdale
Richmond, M. Rosenheim, Wimbledon
Rogers, E.M. Anfield Coll., Liverpool
Thomas, M. Tenby Intermediate S.
Williamson, M.S. Private tuition

Braye, G.E. Rutland House, S. Hackney
Cocker, C.S. Victoria S., Eccles
Colling, E.H. Brondesbury High S.
Cunningham, A.M. Hutton Gram. S.
DeMarney, E.T. *a.* Balham S.
Hillam, V.M.H. Private tuition
Reeve, D.M. Northpark Coll., Croydon
Watson, M. Ursuline Conv., Blackr'ck, Cork
Whitton, L. High Pavement S., Nottingham

Austin, S.M. Oxford Coll., Clacton
Bulley, A.M. Rutland House, S. Hackney
Curtis, A. Beechcroft C., Richmond Hill
DeMarney, E.M.T. Balham S.
Grundy, G. 1 Crystal Terr., Blackpool
Parkyn, W. Durham House, Crouch Hill

Francati, A. Onslow Hall, Kensington
Milbourne, R. Victoria S., Eccles
Quiggin, F.R. Ladies' C., St. Anne's-on-S.

NAMES OF CANDIDATES IN THE ABOVE LISTS WHO HAVE PASSED THE ORAL EXAMINATIONS IN FRENCH AND GERMAN.

f = French. *g* = German.

BOYS.

Barugh, H.P. *f.* High S., Stockton-on-Tees
Brown, W.J. *f.* Tollington Park Coll., N.
Buckler, J.E.W. *f.* Horusey Gram. S.
Butler, F. *f.g.* Tollington Park Coll., N.
Carter, N.J. *f.g.* Tollington Park Coll., N.
Chandler, F.J. *f.g.* Tollington Park Coll., N.
Cooper, H. *f.g.* Tollington Park Coll., N.
Delmay, F.J. *f.* Montrose Coll., Brixton Hill
Delonnoy, C. *f.g.* High S., Croydon
Frias, M. *f.* St. George's Coll., Weybridge
Gaskin, H.A. *f.* St. Aloysius C., Hornsey Lane
Goldstein, J.L. *g.* Private tuition
Goodrich, R.C.J. *f.g.* Tollington Park Coll., N.
Griffith, A.D. *f.g.* Tollington Park Coll., N.
Gubbay, D.M. *f.* Private tuition
Heiser, F.B *f.g.* Tollington Park Coll., N.
Hodge, A.S. *f.g.* Tollington Park Coll., N.
Hrauda, C.F. *f.g.* Tollington Park Coll., N.
Johnson, F.W. *f.g.* Tollington Park Coll., N.
Knight, R.C. *f.* Newcastle Modern S.
Lascelles, J.C. *f.* Brighton Coll.
Masters, R.E. *f.* St. Aloysius C., Hornsey Lane
Merefield, B.S. *f.* St. Aloysius C., Hornsey Lne
Nicol, J. *f.g.* Tollington Park C., N.
Ohlsen, H.A. *f.g.* Newcastle Modern S.
Rathfelder, O.E. *g.* Wyllies, Cuckfield
Reed, J.P. *f.* High S., Stockton-on-Tees
Rothera, C.H. *f-g.* Market Bosworth, Gr.S.
Sans, E. *f.g.* St. Charles' C., N. Kensington
Smith, J.F. *f.g.* Pembroke C., Harrogate
Sorel, V.A. *f.* St. George's C., Weybridge
Stevenson, W.E. *f.* Newcastle Modern S.
Tope, E.J. *f.* High S., Croydon
Turner, H. *f.* Tollington Park Coll., N.

GIRLS.

Atkinson, E.A. *.g.* High S., Stockton-on-T.
Bosson, M.M. *f.* Fern Bank, Wandsw'th Com.
Boulay, E.C.E. *f.* Private tuition
Carr, E. *f.g.* 138 Rye Hill, Newcastle-on-T.
Carter, N. *f.g.* High S., Stockton-on-Tees
Chiazzari, N.L. *f.* Manor Mount Coll. S., Forest Hill
Cogdon, A.M. *f.* Glebe Place S., Clissold Pk.
Creasor, L.E. *f.g.* High S., Stockton-on-Tees
DeCronenthall, M.J.E. *f.g.* 34 Warrington Crescent, W.
Derrick, E.L. *f.g.* High S., Stockton-on-Tees
Foster, W.L.L. *f.* Granville C., W. Croydon
Hammond, D. *f.g.* The Hollies, Gt. Malvern
Hickman, K.L. *f.* Manor Mount Coll. S., Forest Hill
Ison, H. *f.* Granville Coll., W. Croydon
Körner, M.A.A. *f.g.* Hr. Grade S., Sunderland
Lommel, M. *f.g.* The Hollies, Gt. Malvern
Macnab, E.M. *f.* Glebe Place S., Clissold Pk.
Martin, E.M.L. *f.g.* High S., Stockton-on-Tees
Millard, L.J. *f.* Red Maids' S., Bristol
Pybus, I.E. *f.g.* High S., Stockton-on-Tees
Roberts, L.B. *f.* Glebe Place S., Clissold Park
Rutter, A. *f.g.* High S., Stockton-on-Tees
Symonds, L.K. *f.* Coll. S., Ealing Rd., Brentf'd
Tate, A. *f.g.* High S., Stockton-on-Tees
Taylor, M. *f.g.* The Hollies, Gt. Malvern
Tyers, M. *f.g.* The Hollies, Gt. Malvern

JUNIOR FORMS EXAMINATION.—PASS LIST, MIDSUMMER, 1897.

BOYS.

Acquier, C.F. St. Margaret's C., Lowestoft
Adams, E.J. Taplow Gram. S.
Adams, J.F. Taplow Gram. S.
Adamson, A.J. Taunton's Trade S., Southampton
Addison, W.R.F. Horsmonden S.
Addyman, S. Ilkley Coll.
Alty, H. Hutton Gram. S., Preston
Andrews, A.J. Hillmartin Coll., Camden Rd.
Anthony, G. Commercial Coll., York
Anthony, P.M. Taplow Gram. S.
Atkinson, G.R. St. Catharine's S., Broxbourne
Atkinson, J.L. St. Catharine's S., Broxbourne
Balcombe, C. Borden S., Sittingbourne
Barbès, F.O.B. Edward VI. Gram. S., Totnes
Barnes, J. Ilkley Coll.
Barnes, O.F. Horsmonden S.
Barrington-Ward, V.M. Market Bosworth Gram. S.
Barton, A.G. Taunton's Trade S., Southampton
Barton, W.J.B. 20 West Cliff, Preston
Bauche, J. Bradford House, Jersey
Beckett, F.E. Eastville, Sheffield
Beech, J. Herne Bay Coll.
Beech, W.R. Herne Bay Coll.
Beer, F.C.F. Herne Bay Coll.
Beesley, F.M. Wirksworth Gram. S.
Benson, G. New Brighton High S.
Bentley, F.E. High S., Croydon
Bergl, M.I. Hillmartin Coll., Camden Road
Bethell, A. St. Aloysius Coll., Hornsey Lane
Bishop, N.H. Oxford County S., Thame
Blackmore, P. Ilkley Coll.
Blenkinsop, W. St. Aloysius C., Hornsey Lane
Blogg, E.B. Belmont House, Walmer
Boatswain, J. Kingston S., Yeovil
Boddington, V.C. Private tuition
Botham, H.G. New Cross Coll. S.
Bound, A.L. Taunton's Trade S., Southampton
Bowman, A.J. Polytechnic Technical S., W.
Boyd, L.C. Osborne High S., W. Hartlepool
Boyns, K.H. University S., Smethwick
Braithwaite, H.I.E. Sandyford Acad., Newcastle-on-Tyne
Braund, R.M. Romford Gram. S.
Brett, H.E. Herne Bay Coll.
Brew, R.C. Marlborough Coll., Liverpool
Bromley, C.E. Paradise H., St. Newington
Brooker, W. Hastings Gram. S.
Broom, H. New Brighton High S.
Broughall, E. Oswestry Gram. S.
Brown, R.B. Lancaster Coll., W. Norwood
Budden, R.F. Taunton's Trade S., Soton
Bull, H.M. Oswestry Gram. S.
Burgess, V. The Coll., Goudhurst
Butler, O.P. Taunton's Trade S., Southampton
Caddick, R.V. Glenarm S., Moseley
Caesar, A.S. Paradise House, St. Newington
Cannon, E.C.B. Kingston S., Yeovil
Carr, G. Argyll House, Nightingale Lane, S.W.
Carter, B. Beaconfield Coll., Plymouth
Cave, G.C. Hastings Gram. S.
Charlwood, W. St. Aloysius C., Hornsey Lane
Cheesman, J.R. Belmont House, Walmer
Cheshire, G.C. St. Catharine's S., Broxbourne
Cheveley, G. Tenby Intermediate S.
Chick, J.N. Bethany House, Goudhurst
Chick, T.W. Bethany House, Goudhurst
Choyce, W.C. Market Bosworth Gram. S.
Clare, J.W. Marlborough Coll., Liverpool
Clark, A. St. Aloysius Coll., Hornsey Lane
Clark, E. Tetbury Coll. S.
Clay, W.S. Beethoven C., Wandsworth Comm.
Clayton, F. Borden S., Sittingbourne
Clemetson, C. Horsmonden S.
Coates, H.C. Hutton Gram. S., Preston
Cogan, J. Ilkley Coll.
Cole, H. Kingston S., Yeovil
Coles, H. Independent Coll., Taunton
Collard, J.W. Borden S., Sittingbourne
Collins, H.J. The Hawthorns, Otford
Cooper, C.E. Private tuition
Cooper, P. Market Bosworth Gram. S.
Cooper, W. Ilkley Coll.
Corbyn, B. St. Margaret's Coll., Lowestoft
Cordingley, L.T. Ilkley Coll.
Cottman, H.K. Bournemouth Gram. S
Coupe, F. Cath. Coll. Inst., Manchester
Cowtan, F.S. Belsize S., N.W.
Coy, J. Eye Gram. S.
Crosthwaite, E.F. Taplow Gram. S.
Crowhurst, W.H. Bethany H., Goudhurst
Cuddon, F. St. Aloysius C., Hornsey Lane
Cunningham, J. Cath. Coll. Inst., M'chester
Curties, T. St. Aloysius Coll., Hornsey Lane
Cusworth, C.H. St. Philip's Gr. S., Edgbast'n
Dalton, F. Market Bosworth Gram. S
Daniel, W.T. Higher Grade S., Torquay
Darwall, B. St. Aloysius Coll., Hornsey Lane
Davies, B. County S., Dolgelley
Davies, H.M. Taplow Gram. S.
Davies, J.H. Modern Coll. S., Rhyl
Davies, W.H. Higher Grade S., Torquay
Davis, O.R. Polytechnic Technical S., W.
Davis, W. Tenby Intermediate S.
Dawes, A.H. St. John's Coll., Brixton
Deacon, J. Hutton Gram. S., Preston
Deane, A. Market Bosworth Gram. S.
Deane, C.G. Independent Coll., Taunton
Dean, G.T. Market Bosworth Gram. S.
DeBurgh, H. Commercial Coll., York
DeGray, R. Winchester H., Gt. Yarmouth
Dencrley, J. New Brighton High S.
Denley, H.B. St. Philip's Gr. S., Edgbaston
Dennes, N. Oxford House, Brighton
Denny, A. Borden S., Sittingbourne
Deverell, R.J.L. Oxford County S., Thame
Diboll, H.A. Winchester H., Gt. Yarmouth
Dixon, E.L.B. 20 West Cliff, Preston
Doncaster, C.G. Polytechnic Tech. S., W.
Donnellan, T. Cath. Coll. Inst., M'chester
Dowden, A.F. Taunton's Trade S., S'thampton
Drakes, P. Ilkley Coll.
Draper, G.M. Hastings Gram. S.
Dryden, J.D. Taplow Gram. S.
Duchemin, C.L. St. Philip's Gr. S., Edgbaston
Dunkley, W. Market Bosworth Gram. S.
Dunn, F.A.S. Manwood's Gram. S., Sandwich
Dunne, J. Higher Grade S., Torquay
Eastes, W. Belmont House, Walmer
Edgar, M.G. Highfield S., Rock Ferry
Edwards, E. Oswestry Gram. S.
Edwards, G. County S., Dolgelley
Edwards, R.J. County S., Dolgelley
Edwards, P.R. Kingston S., Yeovil
Eele, F.W. Oxford County S., Thame
Ellis, F. Hastings Gram. S.
Evans, H.L. Borden S., Sittingbourne
Farquharson, W.D. Bethany H., Goudhurst
Farrant, J.A.P. Taunton's Trade S., Southampton
Farrer, F. Manor H., Hastings
Feeney, T. Cath. Coll. Inst., Manchester
Fergusson, W.A. Cambridge S., Stroud
Fewing, J.E. Higher Grade S., Torquay
Field, F.J. Oxford County S., Thame
Fisher, R.J. Gosbertou Hall, Spalding
Fleming, W.L. Taunton's Trade S., Soton
Fletcher, L.C. Taplow Gram. S.
Fletcher, W.H. Wellesley Coll., Long Eaton
Forster, A.L. Sandyford Acad., Newc'tle-o.-T.
Foster, H.J. Market Bosworth Gram. S.
Fraser, A. Independent Coll., Taunton
Freeman, T.A. Taunton's Trade S., Soton
Freeth, P.V. Tetbury Coll. S.
French, W.F. Taunton's Trade S., Soton
Fryer, L.G. Uckfield Coll., Brighton
Gale, G.J. Tetbury Coll. S
Gale, R. Osborne High S., W. Hartlepool
Gambell, P.C. Oxford County S., Thame
Gammon, H. Oxford County S., Thame
Gammon, J.C. Oxford County S., Thame
Gapp, H.E. The Cedars, Ealing
Gara, T.J. Ilkley Coll.
Gaywood, H.W. Herne Bay Coll.
Gerhartz, H.E. Ilkley Coll.
Gershon, C.G. Taplow Gram. S.
Gibson, D.H. Polytechnic Tech. S., W.
Gibson, H. Edward VI. Gram. S., Totnes
Gildersleeve, W.S. Hastings Gram. S.
Glassborow, R.B. Woodgrange H., Forest Gate
Glassington, J.P. High S., Croydon
Glaze, A.H. Higher Grade S., Torquay
Goffin, H.C. Leaholme Coll., Cirencester
Goldsmith, M. Taunton's Trade S., S'thampt'n
Gorgas, S. Cath. Coll. Inst., Manchester
Goulden, E. Cath. Coll. Inst., Manchester
Graburn, C. High S., Croydon
Gracie, I. St. Mary's Coll., Woolhampton
Graff, G.A. High S., Croydon
Graham, J.C. Herne Bay Coll.
Grant, B. Woodgrauge House, Forest Gate
Greathead, T. Heury Smith S., Hartlepool
Gregory, A.E Hastings Gram. S.
Griffiths, B. Tenby Intermediate S.
Griffiths, H. Oswestry Gram. S.
Gulley, G.S.L. The Cedars, Ealing
Gwynue, S. Bethauy House, Goudhurst
Hadley, E. St. Philip's Gram. S., Edgbaston
Hague, A.E. 20 West Cliff, Preston
Hall, D. Herne Bay Coll.
Hall, T.C.S. Polytechnic Technical S., W.
Hallett, J. St. Mary's Coll., Woolhampton
Hamper, R.F. Leaholme Coll., Cirencester
Hardman, J.A. Linden H., St. John's, S.E.
Harhen, T. Cath. Coll. Inst., Manchester
Hatch, W. High S., Croydon
Hawkins, H.E. Cambridge S., Stroud
Hawkins, T. Kingston S., Yeovil
Haynes, P.O. Independent Coll., Taunton
Heaver, W.H. Taunton's Trade S., S'thampton
Heckmann, A.C. The Manse, Little Baddow
Heslam, G.W. Richmond H., Handsworth
Hillier, C. Taplow Gram. S.
Hinde, W. Hutton Gram. S., Preston
Hodgson, H.C. Linden House, St. John's, S.E.
Hogg, P.D. Linden House, St. John's, S.E.
Holgate, W.J. Marlborough Coll., Liverpool
Honeyball, W.C. Manwood's Gr. S., Sandwich
Hook, H.S. Kingston S., Yeovil
Hoskyn, A.C.M. Kingsbridge Gram. S.
Hoskyn, C.J. Kingsbridge Gram. S.
Hughes, G.R. Oswestry Gram. S.
Hnghes, J.O. Oswestry Gram. S.
Huxtable, A. Barnstaple Gram. S.
Ings, P.R. Kingston S., Yeovil
Innes, J.D.P. Wirksworth Gram. S.
Isgar, P.H. Bournemouth Gram. S.
Jaggar, C. Commercial Coll., York
Jeandron, W.A. Private tuition
Jennings, C.R. Mutley Gram. S., Plymouth
Jennings, J.H. Mntley Gram. S., Plymouth
Johnstone, A. St. Mary's Coll., Woolhampton
Jones, A.C. Tetbury Coll. S.
Jones, A.G. Marlborough Coll., Liverpool
Jones, F.C. Bethany House, Goudhurst
Jones, J. Modern Coll. S., Rhyl
Jones, P. St. Aloysius Coll., Hornsey Lane
Joues, W. Modern Coll. S., Rhyl
Josephs, L.H.O. County S., Dolgelley
Kattray, G.P. Tetbury Coll. S.
Keeping, H.S. Taunton's Trade S., Southampton
Keeping, H.W. Taunton's Trade S., Southampton
Kennedy, D.S. Woodgrange H., Forest Gate
Kent, D.A. Marlborough Coll., Liverpool
Kerr, C.D. Mutley Gram. S., Plymouth
Kettle, H.D. Barnstaple Gram. S.
Kidner, F.E. Private tuition
Kinch, A.G. St. Catherine's C., Langland Bay
Kinread, L.R. Ilkley Coll.
Kirkman, W.C. Market Bosworth Gram. S.
Kirk, E.G.G. Edward VI. Gram. S., Totnes
Kirrelly, J. Cath. Coll. Inst., Manchester
Lackenby, H.E. Commercial Coll., York
Lambert, G.C. Taplow Gram. S.
Langley, L.S. Winchester H., Gt. Yarmouth
Lee, A. Oswestry Gram. S.
Lee, T.H. Marlborough Coll., Liverpool
LeBas, E. Bradford House, Jersey
Lehmann, H.D. The Cedars, Ealing
LeMaistre, J.W. Marlborough Coll., Liverpool
Lewis, E.C. Woodabay S., Weston-s.-Mare
Lewis, P.R. Taunton's Trade S., Southampton
Lewis, R.P. Woodabay S., Weston-s.-Mare
Livett, H.S. Herne Bay Coll.
Lloyd, D.I.B. Oswestry Gram. S.
Long, R.C.W. Eye Gram. S.
Lord, H.V. Sandwich S.
Loughlin, D. St. Aloysius C., Hornsey Lane
Lowe, S. Coll. S., South Shore, Blackpool
Lucas, A.F. The Cedars, Ealing
Lysett, F. Hastings Gram. S.
Lyster, O.F. Oxford County S., Thame
MacDonald, D. Hastings Gram. S.
Madge, E. Marlborough Coll., Liverpool
Maistre, C.D. Tetbury Coll. S.
Malzard, G. Bradford House, Jersey
Mara, E.R. Mutley Gram. S., Plymouth
Martin, J.H.E. Tetbury Coll. S.
Mash, M. Bethany House, Goudhurst
Mason, F.C. Homefield S., Sutton
Masters, E.F. Sandwich S.
Matthews, L.G. The Cedars, Ealing
Maynard, L.H. Kingston S., Yeovil
McCann, V.H. Ilkley Coll.
McCleverty, G.M. 20 West Cliff, Preston
McDonald, R.B. The Cedars, Ealiug
McLaughlin, J. Moldova H., Clapham Pk. Rd.
Measor, R.V. The Cedars, Ealing
Melling, J.A. Ashland High S., Wigan
Meara, T. Catholic Coll. Inst., Manchester
Meredith, D.R. County S., Dolgelley
Middleton, S. Market Bosworth Gram. S.
Miller, A. St. Aloysius Coll., Hornsey Lane
Miller, A.R. High S., Croydon
Miller, R.G. 20 West Cliff, Preston
Millmaker, H.W.H. Oxford House, Brighton
Mitchell, K.W.S. Hurst Leigh, Southampton
Morice, H.F.D. Bryn Haulog, The Mumbles
Morris, J.R. County S., Dolgelley
Morrison, R. Woodgrange H., Forest Gate
Mortimer, W. St. Mary's Coll., Woolhampton
Moses, C.P.B. The Cedars, Ealing
Mugford, F. Barnstaple Gram. S.
Musgrave, H.C. Independent Coll., Taunton
Myles, C. Oxford County S., Thame
Mylett, H. St. Aloysius Coll., Hornsey Lane
Nethersole, W.N. Manwood's Gr. S., Sandwich
Nettleton, J.S. Hall Gate S., Doncaster
Newman, A.D. Winchester H., Gt. Yarmouth
Nicholson, L. Wellesley Coll., Long Eaton
Noble, R.R. Woodgrange House, Forest Gate
Nolan, F. Catholic Coll. Inst., Manchester
Nott, G.W. Hastings Gram. S.
Odam, E.G. Bethany House, Goudhurst
O'Kearny, R. St. Aloysius Coll., Hornsey Lane
Oldreive, S.G. Woodgrange House, Forest Gate
Orme, F. Market Bosworth Gram. S.
Ottley, E.J. Taplow Gram. S.
Page, T.J.C.S. Horsmonden S.
Palmer, A.L. Kingston S., Yeovil
Palmer, W.H.T. Lancaster Coll., W. Norwood
Parke, H. Eye Gram. S.
Parke, J. Eye Gram. S.
Parker, C.C. Kingston S., Yeovil
Parker, C.N. Taplow Gram. S.
Parrott, E. Tenby Intermediate S.
Parry, S.P. Oswestry Gram. S.
Pearson, J.W. Monk Bridge S., York
Peckham, E.C. Leaholme Coll., Cirencester
Peckston, V.G. Ilkley Coll.
Pender, J. Catholic Coll. Inst., Manchester
Perkins, H.H. Arnold House, Northampton
Penrose, H.E. Mutley Gram. S., Plymouth
Phillips, R.L. Hastings Gram. S.
Philp, D. Taunton's Trade S. Southampton
Portway, S.A.F.V. Taplow Gram. S.
Powell, G.H.M. Hastings Gram. S.
Pratt, F.H. Ascham House, Clifton
Pratt, R.O. Bournemouth Gram. S.
Prebble, M. Sandwich S.
Price, C.M. St. John's Coll., Brixton
Pritchard, D. Hastings Gram. S.
Pritchard, R. Hastings Gram. S.
Prophet, C. Taunton's Trade S., Southampton
Prudhoe, A.S. Polytechnic Tech. S., W.
Ramm, E. New Brighton High S.
Rawling, C. Eye Gram. S.
Rawlinson, C.S. Market Bosworth Gram. S.
Rayner, W.W. St. Catherine's Coll., Langland Bay
Renault, F. Oakwood House, Jersey
Richards, C.G. Taplow Gram. S.
Riches, R.G. Winchester H., Gt. Yarmouth
Ridsdale, H. Osborne High S., W. Hartlepool
Robbins, A.P. St. John's Coll., Brixton
Roberts, H.G.V. Argyll House, Nightingale Lane, S.W.
Robins, S.G. Mutley Gram. S., Plymouth
Robinson, F.W. Richmond Hill S., Surrey
Robison, W.A. Richmond H., Handsworth
Robson, J.G. Marlborough Coll., Liverpool
Robson, P.R. Marlborough Coll., Liverpool
Roe, A.W. Hastings Gram. S.
Roe, T. Hutton Gram. S., Preston
Ronca, A. Moldova H., Clapham Pk. Rd.
Ross, G.H. Taplow Gram. S.
Rowe, C.A.P. High S., Camborne
Rushworth, W. St. Mary's C., Woolhampton
Russell, B.H. Manwood's Gram. S., Sandwich
Rutherford, C.J. Marlborough C., Liverpool
Sanders, E.W. Wirksworth Gram. S.
Sanderson, B. St. Aloysius C., Hornsey Lane
Sandford, W.D. Higher Grade S., Torquay
Saunders, C.P. Independent C., Taunton
Saunders, F.H. Independent C., Taunton
Savage, S.G. Marlborough C., Liverpool
Sceats, D.B. Seaford Coll.
Scott, E.H. St. Cath. Coll., Langland Bay
Scott, F.O. Oswestry Gram. S.
Scriven, J.F.J. Ilkley Coll
Scruby, J. Waltham Coll., Waltham Cross
Searelle, S.S. Taplow Gram. S.
Seaton, A. Taplow Gram. S.
Sergeant, F.G. Hillmartin C., Camden Rd.
Shaftoe, H. Monk Bridge S., York
Sharples, S. Hutton Gram. S., Preston
Shimmin, F. New Brighton High S.
Singleton, J. Cath. Coll. Inst., Manchester
Simmonds, A.A. Taplow Gram. S.
Simmous, E.C. Manwood's Gr. S., Sandwich
Skempton, L. Arnold House, Northampton
Smalley, R. Hutton Gram. S., Preston
Smith, F. Barnstaple Gram. S.
Smith, R. Wirksworth Gram. S.
Smith, R.F. High S., Croydon
Smith, W. Wellesley C., Long Eaton
Smyth, P.M. Independent C., Taunton
Solley, J.B. Manwood's Gram. S., Sandwich
Solly, J.A. Sandwich S.
Solomon, R.S. Manwood's Gr. S., Sandwich
Somerford, H. St. John's C., Brixton
Sparkes, F.W. Hastings Gram. S.
Speakman, F. The Manse, Little Baddow
Spelman, W.C. Rusholme S., Clapham Com.
Spinks, F.J. Taplow Gram. S.
Standfast, D. Lady Hawkin's S., Kington
Stanford, E.P. Polytechnic Tech. S., W.
Stephens, L.H.C. Hastings Gram. S.
Stephenson, T.E. Ilkley Coll.
Sterck, P. Hastings Gram. S.
Stevens, W.V. Market Harborough Gram. S.
Stewart, G.S. Taplow Gram. S.
Stidston, J. Edward VI. Gram. S., Totnes
Stiles, F.W. Hall Gate S., Doncaster
Strang, D.B. Marlborough Coll., Liverpool
Strange, C.A. Oswestry Gram. S.
Sturgeon, S.H. Polytechnic Tech. S., W.
Styles, F. New Cross Coll. S.
Sutcliffe, F. High S., Croydon
Sweeney, J. St. Philip's Gram. S., Edgbaston
Sweeting, S. St. Aloysius C., Hornsey Lane
Tarrant, A.W. Taplow Gram. S.
Taylor, E. Highfield S., Rock Ferry
Taylor, F.P. Bethany House, Goudhurst
Taylor, R. Hutton Gram. S., Preston

BOYS, JUNIOR FORMS—*Continued.*

Taylor, R. D. Bethany House, Goudhurst
Taylor, W. T. Wirksworth Gram. S.
Terry, C. Lancaster Coll., West Norwood
Terry, G. S. Private tuition
Thelland, W. J. Bradford House, Jersey
Thomas, J. G. P. Oswestry Gram. S.
Thomas, P. W. Bethany House, Goudhurst
Thompson, D. H. The Cedars, Ealing
Thompson, G. S. Tetbury Coll. S.
Thorne, F. Sandyford Acad., Newcastle-o.-T.
Thorne, F. C. Sandwich S.
Ticehurst, B. C. G. Hastings Gram. S.
Tigar, R. St. Aloysius Coll., Hornsey Lane
Timmins, F. St. Aloysius Coll., Hornsey Lane
Travers, H. Cath. Coll. Inst., Manchester
Traynor, D. Cath. Coll. Inst., Manchester
Trumble, J. High S., Croydon
Tucker, G. A. Taunton's Trade S., Southampton
Tucker, J. F. A. Higher Grade S., Torquay
Tucker, S. G. Taunton's Trade S., Southampton
Tullach, J. R. Homefield S., Sutton
Turner, R. S. Hutton Gram. S., Preston
Underwood, E. J. Independent C., Taunton
Vancouleurs, G. Cath. Coll. Inst., Manchester
Walker, A. Wirksworth Gram. S.
Walker, R. Commercial Coll., York
Walker, T. H. Wirksworth Gram. S.
Wall, R. Wirksworth Gram. S.
Walmsley, J. Hutton Gram. S., Preston
Watson, M. A. St. John's Coll., Brixton
Ward, C. Hastings Gram. S.
Warrener, A. E. Horsmonden S.
Watson, W. Osborne High S., W. Hartlepool
Watts, A. E. Taunton's Trade S., Southampton
Waugh, G. W. High S., Whitley
Wellman, R. W. Bournemouth Gram. S.
Wells, H. Polytechnic Technical S., W.
Westmacott, E. W. P. Belsize S., N. W.
Whitaker, S. G. Herne Bay Coll.
White, C. B. Modern Coll. S., Rhyl
White, J. R. Cath. Coll. Inst., Manchester
Whittle, J. M. Kingston S., Yeovil
Wigley, J. P. St. Philip's Gr. S., Edgbaston
Wigner, A. N. Bethany House, Goudhurst
Wilkinson, T. Zelah House, Brockley
Williams, A. P. St. John's Coll., Brixton
Williams, E. S. Gosberton Hall, Spalding
Williams, H. Gosberton Hall, Spalding
Williams, L. R. Herne Bay Coll.
Williams, P. W. Taunton's Trade S., Southampton
Willis, R. The Cedars, Ealing
Wire, B. J. Woodgrange House, Forest Gate
Winn, A. H. Wellesley Coll., Long Eaton
Witchell, S. J. Tetbury Coll. S.
Wivell, W. D. Hutton Gram. S., Preston
Wood, H. R. Polytechnic Technical S., W.
Worden, H. Hutton Gram. S., Preston
Wotton, J. J. Mutley Gram. S., Plymouth
Wright, E. Wirksworth Gram. S.
Wright, W. J. Montague H., New Cross Rd.
York, R. St. Mary's Coll., Woolhampton
Youings, J. H. Barnstaple Gram. S.
Young, C. S. Herne Bay Coll.
Young, F. T. Tetbury Coll. S.

GIRLS.

Allan, L. Girls' Coll. High S., Lytham
Allen, E. C. Preswylfa, Roath
Allen, L. E. Craven Park Ladies' Coll., N.W.
Ames, I. Private tuition
Andrew, L. H. Park House, Peel Causeway
Ansdell, B. E. St. John's Lodge, Cheltenham
Appleyard, L. Eastthorpe, Mirfield
Armstrong, M. E. Wine Street House, Frome
Arnfield, E. J. Huntingdon House, Ely
Ashby, E. Durham House, Crouch Hill
Atkins, E. S. The School House, Newbury
Badley, E. Queen's Coll., Haverstock Hill
Bagot, L. Beech House, Eccles
Baker, M. Rosslyn House, Liscard
Banister, L. Hartfell, Southport
Barbier, M. J. Rose Hill S., Whittington
Barnes, H. 38 Grey Road, Walton, Liverpool
Beckitt, N. K. Private tuition
Bell, W. M. Roseuheim, Wimbledon
Bellamy, R. K. Rosenheim, Wimbledon
Bernard, L. 6 Leicester Place, W.C.
Bidwell, M. Rosslyn House, Liscard
Bigrel, J. M. Six Roads S., Jersey
Binner, M. S. Woolsery, Hoylake
Black, E. Convent S., Seaforth
Blakeman, K. Huntingdon House, Ely
Bond, A. Couvent S., Seaforth
Bourke, C. Convent S., Seaforth
Bowman, L. New Brighton High S.
Bowman, T. M. Rosslyn House, Liscard
Boxall, M. Edgbaston House, Margate
Braidwood, A. V. Private tuition
Braithwaite, B. Lea Holm, Waterloo, L'pool
Bridge, C. 7 Clark's Hill, Prestwich
Bridgen, B. J. Craven Park Ladies' Coll., N.W.
Bridgland, N. Elm Lodge, Petersham
Briggs, H. Brentwood, Southport
Broadbent, G. E. Wesley Hall S., Castleford
Broadrick, M. High S., Dukinfield
Brockman, E. M. Edgbaston House, Margate
Bromley, B. M. Preswylfa, Roath
Brown, E. D. High S., Maidenhead
Brown, E. G. Moravian Ladies' S., Fairfield
Burbidge, A. Convent S., Seaforth
Butler, D. M. The Laurels, Nottingham
Butler, M. Girls' Coll. S., Tetbury
Card, B. A. High S., Salisbury
Cane, L. Queen's Coll., Haverstock Hill
Carmichel, M. Lea Holm, Waterloo, L'pool
Carr, F. E. Penrith S., Stamford Hill
Carter, M. E. Assembly R., Newby Pl., Poplar
Castleman, F. A. The Old Gram. S., Thame
Cates, C. J. Oxford Coll., Gunnersbury, W.
Chadwick, E. M. Wincham Coll.
Chaning-Pearce, R. L. Private tuition
Chase, M. C. Rusholme S., Clapham Com.
Chatrian, E. Private tuition
Chatrian, H. Private tuition
Cheesman, M. M. Private tuition
Cheshire, J. M. Glenarm S., Moseley
Christen, H. G. V. 6 Leicester Place, W.C.
Clark, E. Beech House, Eccles
Clarke, A. L. Clarendon Coll., Tufnell Park
Clarke, D. Huntingdon House, Ely
Clarke, M. C. Ebrington House, Exeter
Cobley, M. I. Fern Bank, Harpurhey
Cole, F. M. High S., Salisbury
Collard, E. E. "Elim," Blackheath
Collier, E. Girls' Coll. High S., Lytham
Collins, V. E. Ellesdon House, Bexley Heath
Collinson, B. Beech House, Eccles
Colly, E. Ursuline Convent, Cork
Comely, M. A. Girls' Coll. S., Tetbury
Comley, E. S. North Park Coll., Croydon
Coombs, E. N. High S., Salisbury
Cope, B. M. Huntingdon House, Ely
Copeland, G. S. 7 Clark's Hill, Prestwich
Cross, D. Field House, Heaton Chapel
Crossley, H. Girls' Coll. High S., Lytham
Cubitt, L. E. South Croydon Coll.
Cure, B. High S., Salisbury
Davies, A. G. Clarendon Coll., Tufnell Park
Dawson, E. I. Harley House, Hereford
Dean, D. M. 1 Crystal Terrace, Blackpool
dela Perrelle, E. A. Vauxhall S., Jersey
Dent, F. Brentwood, Southport
Digby Pigott, M. 35 Brompton Square, S.W.
Dormer, M. St. Mary's Conv., Newtownbarry
Drakes, F. Convent S., College St., Nottingham
Dufton, D. 171 Bedford Street, Liverpool
Dunkley, E. E. Penrith S., Stamford Hill
Dunne, A. St. Mary's Conv., Newtownbarry
Durant, L. F. Brentwood, Southport
Eady, B. M. Private tuition
Eastwood, D. Moravian Ladies' S., Fairfield
Eden, F. M. Portland House, Workington
Edgson, E. Elgin Coll., Burlington Road, W.
Edwards, J. C. Coll. S., Oswestry
Egan, M. L. Ursuline Convent, Cork
Etheredge, W. M. Luttengate, St. Newington
Etherington, G. Beechcroft C., Richmond Hill
Everitt, A. Beechcroft Coll., Richmond Hill
Fearnley, A. C. Thurlstone, Penistone, Sheff'ld
Foley, E. Ursuline Convent, Cork
Ford, E. Harley House, Hereford
Foster, B. N. Hastings High S.
Fox, E. Ursuline Convent, Cork
French, J. Private tuition
Fromow, F. G. Oxford Coll., Gunnersbury, W.
Gale, E. K. Girls' Coll. S., Tetbury
Gannon, J. Convent Day S., Galway
Gardiuer, C. E. Burscough House, Ormskirk
Gardiner, S. M. The Laurels, Nottingham
Gardner, E. Highfield, Blackpool
Garlick, H. M. 1 Crystal Terrace, Blackpool
George, E. The Old Gram. S., Thame
Glanfield, E. M. High S., Salisbury
Gledhill, N. Field House, Heaton Chapel
Goddard, L. C. C. Royal Naval S., Twickenham
Gollan, M. I. The Coll., Goudhurst
Gore, A. L. Edgbaston House, Margate
Goring, G. M. Private tuition
Goskell, M. The Hollies, Macclesfield
Gravil, N. P. G. Preswylfa, Roath
Gregory, B. St. Mary's Conv. Newtownbarry
Gregory, G. H. Huntingdon House, Ely
Gryspeerdt, L. Coloma House, Croydon
Gromett, E. D. St. Mary's S., Ely
Groom, D. M. Durham House, Crouch Hill
Gunning, S. M. Wine Street House, Frome
Haggerty, M. E. Coll. House, Peckham
Hague, Eliz. Moravian Ladies' S., Fairfield
Hague, Ellen Moravian Ladies' S., Fairfield
Haigh, F. Riversdale, Boston Spa
Hale, B. Teddesley House, Walsall
Huliston, A. J. Craven Park Ladies' C., N.W.
Hallett, G. Coloma House, Croydon
Harding, L. High S., Salisbury
Harding, R. Private tuition
Harold, J. Convent S., Seaforth
Harrison, D. E. Lea Holm, Waterloo, L'pool
Harrison, R. H. Pontypridd County S.
Harvey, E. M. Heathleigh S., Horsmonden
Hawnt, D. L. Wincham Coll.
Hayes, B. M. High S., Salisbury
Hay Coghleu, N. 35 Brompton Square, S.W.
Haylock, A. E. W. Huntingdon House, Ely
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THE

EDUCATIONAL TIMES,

AND

Journal of the College of Preceptors.

Vol. L.] New Series, No. 437. SEPTEMBER 1, 1897. { *Price to Non-Members, 6d.* *By post, 7d.*

COLLEGE OF PRECEPTORS.—
EXAMINATIONS FOR 1897.

1. DIPLOMAS.—The next Examination of Teachers for the Diplomas of the College will commence on the 4th of January, 1898.—At the Midsummer Examination, persons who have previously passed in Theory and Practice of Education at the Diploma Examination may be examined practically for Certificates of Ability to Teach.

2. CERTIFICATE EXAMINATIONS.—The Christmas Examination for Certificates will commence on the 7th of December.

3. JUNIOR FORMS EXAMINATIONS.—The Christmas Examination will commence on the 7th of December.

4. PROFESSIONAL PRELIMINARY EXAMINATIONS.—These Examinations are held in March and September. The next Examination will commence on the 7th of September, 1897.

5. INSPECTION AND EXAMINATION OF SCHOOLS.—Visiting Examiners are appointed by the College for the Inspection and Examination of Public and Private Schools.

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C. R. HODGSON, B.A., *Secretary.*

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C. R. HODGSON, B.A., *Secretary.*

COLLEGE OF PRECEPTORS.—
(Bloomsbury Square, W.C.)

The next Monthly Evening Meeting of the Members will take place on Monday, the 27th of September, when J. J. FINDLAY, Esq., M.A., will read a Paper on "The Business of the Teacher."

The Chair will be taken at 7 p.m., by Sir PHILIP MAGNUS, B.A., B.Sc., F.C.P.

Members have the privilege of introducing their friends.

Note.—This Paper will take the form of an Inaugural Address, introductory to the Lecture Courses of the Training College in the ensuing Session.

C. R. HODGSON, B.A., *Secretary.*

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The Fee for the Course is Half-a-guinea.

The Lectures will be delivered on Thursday Evenings at 7 o'clock, at the College, Bloomsbury Square, W.C.—But the first Lecture, as announced above, will be given on Monday, the 27th of September.

Members of the College have Free Admission to this Course.

[N.B.—A List of other Lecture Courses to be delivered by the Principal and others during the Session 1897-8 may be had on application.]

C. R. HODGSON, B.A., *Secretary.*

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The WINTER SESSION begins on 14th October. For Prospectus, apply to the Secretary, Miss GALLOWAY, Queen Margaret College, Glasgow, who will also give information as to the Hall of Residence for Women Students.

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The Medical School contains large Lecture Rooms and well-appointed Laboratories for Practical Teaching, as well as Dissecting Rooms, Museum, Library, &c.

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For further particulars apply, personally or by letter, to the WARDEN of the College, St. Bartholomew's Hospital, E.C.

A Handbook forwarded on application.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, PADDINGTON, W.

The WINTER SESSION begins on October 1st with an Introductory Address, at 4 p.m., by Dr. Gow. The Annual Dinner will be held in the evening at the King's Hall, Holborn Restaurant, Mr. A. J. Pepper, F.R.C.S., in the Chair.

ENTRANCE SCHOLARSHIPS IN NATURAL SCIENCE.

One of £144, two of £78. 15s., one of £52. 10s., two of £57. 15s. (these two open to students from Oxford and Cambridge), will be awarded by Examination on September 22nd and 23rd.

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THE MIDDLESEX HOSPITAL MEDICAL SCHOOL.

The WINTER SESSION, will open on Monday, October 4th, at 3 p.m. Sir DONALD SMITH, G.C.M.G., L.L.D., Chancellor of M'Gill University, Montreal, will address the Students at the opening meeting, and distribute the Prizes gained during the previous year.

The ANNUAL DINNER of the Past and Present Students and their friends will take place the same evening at the Café Royal, Regent Street, at 7 o'clock, STORER BENNETT, Esq., F.R.C.S., in the chair.

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Surgeons—Mr. Henry Morris, Mr. Andrew Clark, Mr. A. Pearce Gould.
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Aural Surgeon—Mr. Stephen Paget.
Consulting Dental Surgeon—Mr. J. S. Turner.
Dental Surgeon—Mr. Storer Bennett.
Assistant Dental Surgeon—Mr. W. Hern.
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Two open Entrance Scholarships, value £100 and £60, will be competed for on September 23rd and 24th, and one Entrance Scholarship, value £60, in Anatomy and Physiology, open to Oxford and Cambridge Students only, on October 5th.

Inclusive Fee 120 guineas, or by three yearly instalments of 60 guineas, 40 guineas, and 30 guineas.

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For further information apply at the Hospital to the Resident Medical Officer, or to

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ENTRANCE SCHOLARSHIPS of the combined value of £410 are awarded annually, and numerous Prizes and Medals are open for competition by Students of the School.

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For the Prospectus of the School, containing full particulars as to fees, course of study advised, regulations of the College, &c., apply personally or by letter, to the DEAN, Guy's Hospital, London Bridge, S.E.

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The Educational Times.

The University Problem.

Our last word last month on the London University Bill was that we had to go to press without knowing the true inwardness of the situation. It was soon made manifest that the Bill had been introduced—no doubt with the very best intentions—in such a shape, in such a hurry, and under such conditions that its acceptance was impossible beforehand. It was put forward as a compromise, and we took it for granted that those who had been most prominent in opposing the amalgamation scheme for the past two years had been satisfied by a partial deference to their views, in return for which they had waived their remaining objections. That is the only meaning of a compromise, and, with that understanding, we wrote that we were willing to cast in our lot with the compromisers, although the dual examination scheme appeared to us to be unworkable. Now it is true that some of the objectors had come to a compromise, and had secured a very fair *quid quo pro*. Mr. Busk and Dr. Napier had agreed to the new draft, and they were a host in themselves. Very likely, if the Bill had been just a little better, and if the opinion of Convocation could have been taken, there might have been an overwhelming majority in favour of accepting the terms and ending the controversy.

But there was no time to consult Convocation, and that made all the difference. It turned out that men like Sir John Lubbock, Mr. Fletcher Moulton, Dr. Collins, and Mr. Charles Harrison were strongly opposed to the so-called compromise; and under these circumstances it was manifestly useless to put the Bill forward. It was said by some that there had been an attempt to rush the measure, that is, to carry it in both Houses of Parliament without discussion, and in the teeth of an unwilling minority. We do not believe that this would be a fair explanation of the hurry: all that happened was that at the end of July, unexpectedly at the last moment, certain difficulties were cleared out of the way, and the Government said that, if the thing could be done without raising a discussion, they were willing to provide the necessary facilities. There was no reason to object to an effort of this kind, even if it did imply that a certain amount of criticism would have to be ignored or evaded; but the difficulties which were known to exist were far too great to be so lightly overcome.

The Bill, therefore, was lost: first, because there was no time to fight it; second, because all the objectors had not been made parties to the compromise; and, third, because its provisions were not such as to command general assent, even amongst the warmest advocates of the Cowper scheme. The third is the most fatal reason. If the draft were good in itself, it could be introduced again next Session, and passed as a Government measure without much difficulty. But would it be possible, or worth while, to pass any Bill which recognized two different processes for arriving at the same degrees, two processes with distinct sets of examinations, and differing so widely that it would be a matter of complete indifference whether undergraduates ever came to London or not, and whether they attended the lectures of the professors or entirely ignored them? We do not believe that a University on these lines would satisfy one reasonable man out of ten, or that it would stir the slightest enthusiasm in those who have contended for a real teaching University in place of an organization, however competent and dignified, for holding examinations and granting degrees. If that be so, it will be useless to bring in another Bill next year containing the same abnormal feature. It is better to face the whole difficulty at once, and not to go on beating the air and making fallacious compromises. With two different examinations for the same degrees—an unheard-of and a fantastic device—it would be inevitable that one would come to be pitted against the other. There would be comparisons, and rivalries, and confusions, and a constant derogation from the dignity of the University. Whatever weight might be given to the Faculties and the Academic Council would subtract from the value of the external degree; and whatever added note of authority might be attached to the high standard of graduation under the existing authorities in Burlington Gardens would detract from the character assigned to the academic degree. In short, we should have a house divided against itself, and it could not stand.

What, then, remains? Are we to have a second University? Surely, that idea is dead beyond the reach of resurrection. The objections are very much the same as the objections to a dual University: there would be the same comparisons and rivalries, it would be virtually the same house, more than ever divided against itself. Are we to abandon the idea of a teaching University, a home of research, an academy of scientific and scholarly reunion? We believe that nine-tenths of the present graduates would lament such a lame conclusion—and we are quite sure that those who want a teaching University will never rest until they get it. Then what is it that remains? It is still a compromise, still an amalgamation, still an opening of

the door to the teaching colleges, and a guarantee of undiminished value for the London degree. Let public opinion and Parliament insist upon these things, and the difficulties, however great they may seem, will disappear. So long as we can have unity based on compromise, the details are all of minor importance. For our own part, we should be willing to see an Examination Board nominated in exactly equal numbers by the Convocation of graduates and the composite Senate. For all other purposes it would be right that the Senate should be the superior and even the supreme authority in the University; but for the general control of the examinations, taking into account the logical consequences of the existing state of things, it seems fair and just that Convocation should nominate man for man with the Senate.

Here is a compromise which, we have some reason to think, would be accepted by many influential men on both sides, and certainly by the general public. In any case, it would be interesting to know how much there is to be urged against it.

Child-Psychology.

It is only of comparatively recent years, as we said last month, that the child has been studied from his own point of view. We do not, of course, mean to imply that some two hundred generations of humanity have lived and died without observing in their children, and not only observing, but also recording, the initial growth of the human intellect. But to study the child by a process of close mental superposition, to catch the first sparks of his consciousness, to detect, and even anticipate, the first germination of his faculties, not in quest of amusement or to satisfy an idle curiosity, but in order to encourage the growth and fan the spark into a flame—this is, undoubtedly, one of the newer forms of educational zeal, conceived, it may be, by our fathers and grandfathers, but not very practically displayed until within the last few years. Professor Sully, in the pleasant little volume to which we draw attention this month, names a few of the pioneers who, like himself, have entered on this interesting field of inquiry, by the collection and classification of thousands of anecdotes, and by the preservation and comparison of quaint documents which must seem infinitely trivial to such as have no key wherewith to unlock their secrets. Our child-psychologists will do well not to neglect the accumulation of material which has been gathered in the past by mere lovers of childhood, who have had no art beyond their natural sympathy, and who live by virtue of that sympathy in the memory of their countrymen. Poets, essayists, story-writers, would supply Professor Sully and his friends with a wealth of illustration, varying widely, no doubt, in its value for scientific purposes, yet much of it distinctly valuable. An admirable volume, a meet companion for the "Studies of Childhood," might be made out of the best of such material; and it would serve, amongst other things, to prove once more how much that is indispensable to positive, practical, scientific, and technical education lies ready to the teacher's hand in the pages of the most unsystematic and imaginative literature.

We need not pause to indicate where the compiler of such a book would find his best and most abundant gleaning. One name will occur inevitably to the reader's mind. A somewhat dissolvent essay on Robert Louis Stevenson, printed in two recent numbers of the *Athenæum*, ends with a paragraph to which few of his admirers will be likely to take exception:—

> It is as the writer of "A Child's Garden of Verses" that Stevenson will live as a poet. Here he is at his strongest, and, indeed, above all competitors. Other writers see the child from the convex side, he alone from the concave side. . . . They have not dramatically entered the personality of the universal child and given utterance to his feelings. No one who reads the poems can fail to be startled by their dramatic truth; no one who reads them can doubt that he who wrote them was a man of genius. The way in which the wildly fanciful is in a child's mind mingled with the matter-of-fact was never rendered until the appearance of this unique little treasure-house of poetry.

We are discussing not poetry, but psychology; and the author of "Weir of Hermiston" was a psychologist if he was anything.

Let us take a few indications of the peculiar insight with which Stevenson, having set out to interpret for children their own thoughts in their own language, touches chord after chord of the delicate instrument of the childish soul. First, the dim dawn of observation:—

> When I was down beside the sea
> A wooden spade they gave to me
> To dig the sandy shore.
> My holes were empty like a cup;
> In every hole the sea came up
> Till it could come no more.

The dawn of imagination:—

> All night long and every night,
> When my mamma puts out the light,
> I see the people marching by,
> As plain as day, before my eye.
>
> . . . At first they move a little slow,
> But still the faster on they go,
> And still beside them close I keep
> Until we reach the town of Sleep.

That is childhood's own instinctive sleep-charm. Then the dawn of ratiocination:—

> A child should always say what's true,
> And speak when he is spoken to,
> And behave mannerly at table:
> At least as far as he is able.

The association of ideas:—

> The rain is raining all around,
> It falls on field and tree,
> It rains on the umbrellas here,
> And on the ships at sea.

The instinct of adventure:—

> Up into the cherry tree
> Who should climb but little me?
> I held the trunk with both my hands
> And looked abroad on foreign lands.
>
> . . . To where the roads on either hand
> Lead onward into fairy land,
> Where all the children dine at five,
> And all the playthings come alive.

The presentiment of power, the complementary thought of his present impotence:—

> When I am grown to man's estate
> I shall be very proud and great,
> And tell the other girls and boys
> Not to meddle with my toys.

The play of fancy, and the extending of the imagination:—

> We built a ship upon the stairs
> All made of the back-bedroom chairs,
> And filled it full of sofa pillows
> To go a-sailing on the billows.
> . . . We sailed along for days and days,
> And had the very best of plays.

The birth of wonder:—

> On goes the river
> And out past the mill,
> Away down the valley,
> Away down the hill.
>
> Away down the river
> A hundred miles or more
> Other little children
> Shall bring my boats ashore.

Of complacency :—

> The child that is not clean and neat,
> With lots of toys and things to eat,
> He is a naughty child, I'm sure—
> Or else his dear papa is poor.

Of faith (after saying his prayers) :—

> I know that, till to-morrow I shall see the sun arise,
> No ugly dream shall fright my mind, no ugly sight my eyes,
> But slumber hold me tightly till I waken in the dawn,
> And hear the thrushes singing in the lilacs round the lawn.

A great virtue of this little kindergarten of verses consists in their dramatic form. But get your child's expression where you will, so long as you get with it the conviction of its reality.

NOTES.

We have made elsewhere a number of interesting extract from the first volume of Reports presented by Mr. Sadler to the Education Department. We may add here a further word of recognition for what we cannot but regard as a very welcome new departure. The Director of Special Inquiries, who is so ably seconded by Mr. Morant, has risen to the height of his opportunity, and, like a good actor in what seemed at first a somewhat dubious *rôle*, has "created his part." Every one will now admit how great a need there was for these careful inquiries and reports on the development of education at home and abroad. The work has been admirably done, and it is a work of the highest utility and interest.

The appreciation of the goose—if we may apply that generic term to such of our readers as are engaged in laying the golden eggs of independent secondary education — has of late years been neither seant nor grudging on the part of the most competent judges. We note another instance of it in a recent leading article in the *Times*, which comments on the facilities afforded in Great Britain for the higher education of women. Our contemporary, which is still heretical on the subject of Oxford and Cambridge degrees, pays a well deserved tribute to the English high schools for girls, and admits that the accomplishment of so great a reform by successful private enterprise is a sign that in this country, at any rate, whatever may be done towards State control of education, we cannot afford to dispense with personal and private initiative. "To discourage it altogether, in favour of State provision, would be to kill a goose that has laid many golden eggs, and whose capacity, we trust, is not yet exhausted." The life of the goose depends upon its laying capacities. Englishmen are not likely to maltreat this most prolific fowl.

The Toronto meeting of the British Association appears to have been highly successful, and we are told that every one is satisfied. Canada extended a warm welcome to Sir John Evans, Lord Lister, Lord Kelvin, Prof. Ramsay, Prof. Green, Prof. Ayrton, and the many other representatives of British science, whilst she profits materially by grants to the Meteorological Observatory in Montreal and the Biological Station on the lakes of Ontario. She has the satisfaction, also, of knowing that she has stimulated her guests in more than one direction. The Council of the Association has been asked to consider the desirability of approaching the Government with a view to establishing in Great Britain experimental agricultural stations, similar in character to those which are producing such satisfactory results in Canada. A Committee is to report on the means taken in various countries to promote agriculture by research, reports, and the diffusion of useful information. We do something of this kind already, but not enough. Every Englishman wants to assist the British farmer, and we ought not to neglect the wisest of all ways of helping him—the way of education.

It was only a matter of time : education by machinery is so much in the material order of development, which begins with invention, proceeds by way of manufacture, and is directed or misdirected by "happy thought," that we are not at all surprised to hear of the application of the phonograph to the teaching of modern languages. The odd thing is that the supply of teaching machines should have been undertaken by a "School of Languages (Limited)"; for this happy-thought proposal to sell a box of pure Parisian accent or best German gutturalisch reads like an ingenious device for the extinction of the foreign language master. There is something akin to fascination in the idea of being able to send to the Universal Provider for "one case of complete education."

The plight of the Cardiff School Board, in respect of the wholesale teaching of Welsh in the elementary schools, is perplexing and peculiar. Once on a time the Board undertook to turn monoglots into bilinguals, but the response of the parents was meagre, and little or nothing came of the attempt. There has lately been a revival of interest in the Cymric tongue, and many worthy Welsh gentlemen, with whom we sympathize rather than agree, consider that, as they have a Welsh University and a Welsh Intermediate Act, it is only reasonable to encourage every child, even the children of English parents, to learn Welsh. So the Cardiff Board was urged to repeat its experiment, and at length it agreed to take the sense of the ratepayers on the question : "Do you wish your child to learn Welsh?" Eighty per cent. of the parents, we are told, promptly answered "Yes." This emphatic reply seems to have taken the Board by surprise—so much so that, when the vote was reported at a full meeting, one member declared that the question ought never to have been asked, another said that they had neither the teachers nor the money to make good their implied promise, another said that, if the teachers were provided, the parents would only repeat their former indifference, whilst a majority of the Board seem to have postponed the consideration of the matter to a future and an unnamed day.

The Professor of Biblical Criticism at Aberdeen, who, something mere than a year ago, was "rotted"—if we may use that bit of schoolboy slang—by his irreverent students, and was suspended by the University Court, does not appear to have submitted tamely to his fate. The authorities appointed an interim lecturer for the past academical year, and were credited with the intention of renewing the appointment; but, according to the *Manchester Guardian*, Professor Johnston has now informed them that he proposes to resume the duties of his Chair at the beginning of next session, and has at the same time called upon the Scottish Committee of the Privy Council to protect him from molestation in discharging his duties as professor.

A difficulty is undoubtedly created for the Court by this attempt of Mr. Johnston to resume his position. He has not been ejected from his Chair, for this cannot be done without the sanction of the Privy Council, which is not prepared to agree to such a course until the University Court has provided the Professor with a retiring allowance. The University has no funds out of which such provision might be made, and, as a matter of fact, Mr. Johnston still occupies the residence attached to the Chair. There is edification in store for the young Aberdonians.

The order of Readers in the Church of England numbers something like two thousand, and perhaps it is not generally known that it is entered by a regular avenue of training and examination. A correspondent of the *Guardian* mentions that for some years past the Readers' Board for the Diocese of London has been carrying on an annual course of training at Oxford or Cambridge in the Long Vacation. The attendance this year at Selwyn, at the "School" which terminated on Saturday, August 14, has been the largest on record, no fewer than seventy Readers having been in residence. This training is not restricted to London men, but is managed by the London diocese for the benefit of the two provinces. The next examination for London diocesan readerships will be held on October 9, at St. Paul's Chapter-House. The Readers are not limited to parish work and the reading of the lessons; they are allowed to preach in consecrated churches, and they do so at the rate of about four sermons a week in London alone.

The letter from Mr. Robert Harley, F.R.S., which we print in another column, mentions that the Miller Testimonial Fund will be closed in the course of September. The presentation to Mr. Miller, who has for so many years conducted the special Mathematical Department of the *Educational Times*, includes a Purse and a Watch, the latter engraved with a suitable inscription and monogram. These articles may be viewed during the month of September, by any subscriber to the fund, at Messrs. Wilson and Gill's, 134 Regent Street. It is a pleasure to be able to state that our highly esteemed colleague has already profited largely by his increased opportunities of rest and leisure.

SUMMARY.

THE MONTH.

The University Extension meeting at Oxford opened on the last day of July. Eight hundred students were present, who came not only from all parts of England, but from the Colonies, America, Germany, Austria, Sweden, France, Norway, Holland, and Denmark. The Vice-Chancellor (Dr. Magrath, Provost of Queen's) presided at the opening meeting in the Examination Schools, and the inaugural address was delivered by the Bishop of Ripon, who chose for his subject "Romantic Revival in English Literature." The lectures began on August 2. In the first of a series on "The Educational Struggle in England," Mr. M. E. Sadler, of the Education Department, said he was inclined to believe that, in the country districts and in those towns which were not disturbed by a rapid growth of population, the elementary schools down to 1750 were more numerous and somewhat better than was generally believed to have been the case. The rapid increase of population, the swift growth of large towns, and the economic movement which is known as the industrial revolution disturbed the older traditions of English life. The new quarters of great cities grew up almost educationally destitute. The charity-school movement could not overtake the rapidly growing need for more schools, nor were the schools established in connexion with the old workhouses sufficient in number or adequate in accommodation. The view that the State must intervene in the controversy on this subject began to find adherents between 1760 and 1780.—In the evening Mr. Courtney, M.P., spoke on the subject of "Canning and the Eastern Question."

On August 4 a conference was held, under the presidency of the Marquis of Ripon, to discuss "The Relations between University Extension and the Co-operative Movement." The Bishop of Hereford, who was one of the speakers, said the co-operative principle was one which, at the present time, needed all the emphasising and reiteration that any of them could give it. When he came back to Oxford, as he had done that afternoon, it was with mixed feelings, for the enthusiasms, aspirations, and ideals which used to occupy them forty years ago had not been realized yet. In some respects they seemed as if they were further from their realization than they were forty years ago. Take the great antagonistic principle of co-operation—personal greed. He did not know that he remembered a period in the course of his life in which that greed was so prominent, and had such a strong grip on private, political, commercial, and industrial life, as at the present time.

A Conference was held at Oxford on August 12, on the Training of Pupil-teachers. Sir Joshua Fitch referred to the system founded in Holland, of apprentice-teachers. He said the system gave to teachers much needed help. It was an extremely economical arrangement, and at first had, no doubt, the effect of introducing into the teachers' profession a very large number of young people who had had experience in elementary schools, who knew the whole system from the top to the bottom, and who had turned out to be some of the most valuable teachers in the kingdom. All who had watched the experiment, however, must be conscious that there were some grave drawbacks and defects. It became clear that the students were often imperfectly educated, and that their knowledge of the subjects they had to teach was very unsatisfactory. One fault in connexion with the system was that school managers were apt to look upon pupil-teachership rather as a cheap form of educational work and as a means of getting labour in the schools at the cheapest rate, and very often it was unskilled labour. Mr. Gray, M.P., said the large amounts that the nation was expending could be more profitably utilized in making the pupil-teachers better than they had been in the past, and this brought them face to face with the problem as to what was to be the future of the student-teachers. He would like to remove pupil-teachers from the primary schools, to train them on another level, so as to qualify them for the University degree, which he hoped might replace the certificate. He would like to see the primary and secondary schools under one authority.

The St. Andrews University Council have adopted the report of a Committee appointed to consider the draft Ordinances of the University Commissioners, in reference to the affiliation of Dundee University College. At a meeting of the General Council, on August 11, the Convener of the Committee presented and explained the report.

The only important Ordinance was No. 165—an Ordinance that continued what they, as a Council, had always objected to, the unnecessary duplication of chairs in the University. There were some chairs that they could not help duplicating, the very necessities of Dundee and of St. Andrews insisting upon it. For example, Dundee, as they had always contended, ought to go in strongly for science, and, if they did so, it would be necessary to have chairs corresponding to those they had in St. Andrews. Considering the great importance of Dundee and the several industries connected with it, they ought to have four or five Professors of Chemistry. But, so long ago as October 19, 1893, the General Council had said distinctly that the Arts course should be taught, and alone taught, in St. Andrews. Their Dundee friends, on the other hand, had always maintained that they ought to have some avenue to the degree of Master of Arts, and evidently they had got the University Commissioners round to their point, because, if they were to get English, Latin, philosophy, logic, and mathematics taught, if they were to have natural philosophy, they had very much an Arts course, and between the Arts classes and the Science classes one avenue at least to the degree of Master of Arts was opened up to them. On this matter the Committee would like the Council to express itself fully. They could, of course, as a General Council, accept the report, and he did trust they would do so. On the other hand, they could offer opposition to the report, and they could instruct the Committee to do as they did

before, oppose this to the uttermost, by going to the Privy Council and seeking to get the Arts chairs confined to St. Andrews. He was very loth to advise an appeal to the Privy Council, and he thought it would be better to content themselves by accepting that protest against the University Commissioners, and allowing the matter to drop.

This looks like the beginning of the end of an obstinate contention.

Our Welsh correspondent writes:—"A meeting of the Executive Committee of the Central Welsh Board for Intermediate Education will be held on September 10 at Shrewsbury.—Several of the headmasters of the Welsh county schools are spending a portion of their vacation at Nääs, in Sweden, in order to study the system of manual instruction there taught. Principal Reichel, of the University College of North Wales, is also at Nääs.—Active steps are being taken by the Guild of Graduates of the University of Wales towards publishing some of the manuscript works of the poets of the Tudor and other periods. There is some prospect, too, that reprints of the works of Welsh authors will also be published under the auspices of the Guild.—In the current special number of *Young Wales* there is an able article on 'Sixty Years of Educational Progress' in Wales, by Principal T. F. Roberts, M.A., of the University College of Wales, Aberystwyth.—A vote was recently taken by the Cardiff School Board in order to discover the wishes of the parents of children taught at the schools in regard to the teaching of Welsh. It appears that 80 per cent. of the parents were in favour of having the Welsh language taught to their children. The Board has deferred the consideration of the matter.—Miss Edith Short, B.A., formerly assistant-mistress of Brynmawr School, Glamorganshire, has been appointed assistant-mistress at Ebbw Vale County School, Monmouthshire.—Most of the county schools will re-open about September 15."

At a meeting of the Court of Governors of Sheffield University College, on August 11, the statutes of the College were adopted, and an interim Committee was appointed, and definitely instructed to apply for the admission of the College to the Victoria University. Principal Hicks stated that the members of the staff had desired to commemorate the foundation of the new University College by issuing a volume of original papers on various branches of science and learning. The cost had been met by subscriptions amongst themselves and members of the governing bodies of the three institutions.

A Newcastle correspondent writes:—"A notable figure among those engaged in education in the North has been removed by the death of Dr. H. W. Ehrlich, M.A., Principal of the Newcastle-upon-Tyne Modern School, one of the most successful private establishments in the northern counties. Henry William Ehrlich, who was born in 1826 of yeoman stock at the little German village of Elxleben, near Erfurt, Luther's town, was educated at the Gymnasium of Erfurt, and subsequently at the University of Halle. While completing his course at the University, where he held a theological scholarship, he became interested in the political disturbances which led up to the Revolution of 1848, and in that year the revolutionary journal which he was then editing was suppressed, and he was compelled to flee the country, or remain with the certainty of a long term of imprisonment before him. After a series of adventures he reached France, where he resided for five years and engaged in tuition. He came to England in 1854, and was modern language master at a school in Hertfordshire for a year or so. At this time he commenced a long connexion with the College of Preceptors by gaining at the Christmas examination a first-class certificate for the teaching of German and French, only awarded, in accordance with the by-laws of the College, in cases of distinguished merit. The following Midsummer he obtained the prize for Latin composition offered by the College. After settling in the North he acted for some time as foreign language master at the High School, Stockton, and in 1860 he removed to Newcastle-upon-Tyne, at which town and at Sunderland he was busily employed as visiting master at the Royal Grammar School and elsewhere. In 1873 Dr. Ehrlich founded the Newcastle Modern School, which he conducted with distinct success up to the time of his death. This school was established to give a special training for mercantile pursuits, and modern languages have always been made a prominent feature of the curriculum; but that the classical side has not been neglected is evidenced by the numerous old pupils now in the professions. Several hundreds of Dr. Ehrlich's pupils have obtained certificates at the College of Preceptors examinations, and many have been successful in the special oral examinations in French and German. His generous and sympathetic bearing towards his pupils while at school, and his genuine interest in them long after they had left, won the esteem of a wide circle, and this was shown in a very gratifying way two years ago at a dinner given by a large number of past pupils to their old schoolmaster. About a year ago Dr. Ehrlich suffered from an apoplectic stroke, and latterly suffered very much from cardiac asthma, and this, with bronchitis supervening, caused his death on Sunday, July 25. The Doctor, who was twice married, leaves a widow, but no family. He was the author of 'Ehrlich's French Method.' The school will be conducted, on the lines adopted by its founder, by Mr. J. R. Sisling, B.A. London, who during the past year has been headmaster."

The Charity Commissioners propose to further amend, in the following particulars, the scheme under which Christ's Hospital is governed. Instead of retaining the preparatory school as a separate institution with its own headmaster, it is intended on the removal of the school to Horsham to conduct the preparatory school as a branch of the boys' school under the Headmaster of the Hospital. The regulations with regard to the 179 places on the foundation allotted by the scheme for competition among children attending public elementary schools in the metropolis are to be altered so that the maximum age for competition will be reduced from thirteen to twelve years, while the children, instead of being required to have passed the sixth standard, will be qualified to compete if they "have for at least a year received instruction in the work of a standard or standards higher than the fourth standards." The minimum age of admission under the principal scheme is reduced from ten to nine years, and, whilst the maximum age for admission by presentation or nomination remains fixed at eleven years, it is provided by the amending scheme "that in cases where, in the opinion of the Council of Almoners, hardship would otherwise arise, they may admit at the next admission after a child has reached the age of eleven years any child whose presentation has been lodged before that age." The limit of age for competition for places under the schemes of October, 1894, and January, 1897, and under West's Charities, it is also proposed to reduce from thirteen to twelve years.

The Duke of Devonshire and Sir John Gorst, as Lords of the Committee of the Privy Council on Education, officially report, in regard to the University colleges participating in the grant of £15,000 made by Parliament for University colleges in Great Britain, there are eleven colleges which participated during the year ended March 31 last in the annual grant of £15,000, and there are three colleges in Wales which receive from the Treasury a grant of £4,000 each. By a Treasury minute, dated June 2, 1897, the total sum which Parliament will be asked to vote for University colleges in Great Britain has been increased from £15,000 to £25,000, and a fresh allocation of the grant has been settled as from April 1, 1897. In this allocation, University College, Dundee, will share.

In the Teachers' Examination of the University of Cambridge, held in June, 1897, 37 students of the Cambridge Training College passed in the Theoretical Examination, 3 in the first class and 23 in the second class. In the Practical Examination, 38 students passed, 13 in the first class and 17 in the second class.

(*For Universities, see page* 383.)

APPOINTMENTS, &c.

The Board of Admiralty have appointed Mr. Stanley Dunkerley, of the Department of Applied Mechanics, Cambridge, to be Professor of Applied Mechanics at the Royal Naval College, Greenwich, in succession to Professor J. H. Cotterill, F.R.S., who is about to retire after over twenty-four years' service.—Dr. A. A. Rambaret, Professor of Astronomy in the University of Dublin, and Astronomer-Royal of Ireland, has been selected to succeed the late Mr. E. J. Stone as Radcliffe Observer at Oxford.—The principalship of St. Mark's College, Chelsea, has been filled by

the appointment of the Rev. R. H. Hudson, M.A., Tutor of Selwyn College, Cambridge, and formerly an assistant-master at Sedbergh Grammar School.

Dr. Ward will retire from the Principalship of Owens College, Manchester, in the Victoria University, at the close of the Michaelmas term.

The Rev. Thomas Price, M.A., has been elected Headmaster of Heversham Grammar School, in succession to Dr. Hart. Mr. Price has been Headmaster of Bridgnorth Grammar School for seven years.—Mr. Vincent, second master of the North-Eastern County School, at Barnard Castle, has been appointed Headmaster of King's College, Taunton.

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The first lecture of the new session of the Training College will be delivered by the Principal on Monday evening, September 27, as an introductory lecture, in the course of which the scope and connexion of the various courses of lectures will be described. Teachers who are interested in the study of education are invited to attend on this occasion. The chair will be taken at 7 p.m. by Sir Philip Magnus, B.A., B.Sc.

The classical scholarship examinations at Oxford next term commence, as usual, with New College, Magdalen, and Corpus on November 2, followed by Balliol on November 18. After Balliol all the other colleges follow as fast as they can. The University, Christ Church, Oriel, Exeter, and Brasenose group so far remains constant to its January examination, which is, except Balliol, one of the oldest fixtures now surviving. According to the *Guardian*, the dates of examinations for the approaching year (1897–8) are less in accordance with the wishes of headmasters even than the dates of the academic year just ended.

A combined examination for scholarships at Lady Margaret and St. Hugh's Halls, Oxford, will be held next June. At Lady Margaret there will be two scholarships of £25 a year, one of £30, and one of £50, the latter only given to a candidate who can prove her need of pecuniary aid. St. Hugh's Hall offers the Clara Evelyn Mordan Scholarship of not less than £25 a year, and one Hall Scholarship of £25. Exhibitions of smaller value may also be awarded. The examination will begin on Tuesday, June 30, at Lady Margaret Hall.

The dates fixed for the Society of Arts' examinations in 1898 are March 21–4. The "Programme of Examinations" is now ready. Copies, with full details, and an appendix containing last year's questions and reports by the examiners, can be had on application to the Secretary, Sir Henry Trueman Wood.

The Oxford Local Examinations and Lectures Syndicate, learning that the London Society for the Extension of University Teaching intend to hold a Summer Meeting next June, partly as an experiment to see whether such meetings can be made successful in London, and partly in celebration of the conclusion of the twenty-first year of the existence of the Society, have decided not to hold a large meeting of their own in 1898, but to support most cordially the proposals of the London Society. It is hoped that local secretaries and students of the various centres will do all in their power to make the London Summer Meeting widely known. Particulars may be obtained from the Secretary of the London Society, Mr. C. W. Kimmins, Charterhouse, London, E.C.

In regard to the Slade Scholarships of Fine Art in University College, London, held in connexion with the Slade Professorship of Fine Art, Cambridge, established in pursuance of the will of Felix Slade in 1869, the Charity Commissioners have drafted a new scheme, under which, if it should be finally adopted, two scholarships of the annual value of £35 each, tenable for three years, for proficiency in drawing, painting, and sculpture, or in one or more of those arts, will be offered by the Council of University College for competition in every year.

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SPECIAL REPORTS ON EDUCATIONAL SUBJECTS, 1896–7.

The Education Department has issued from its new Library in Parliament Street a Buff-book of 732 pages, consisting of "Special Reports on Educational Subjects" for 1896–7. Mr. M. E. Sadler, the Director of Special Inquiries and Reports, who is responsible for the editing and much of the writing of this very serviceable volume, describes it as the first of a series which it is proposed to publish, on the educational systems of this and other countries. There are twenty-six separate reports, dealing with various aspects of primary and assisted secondary education in England, with elementary drawing, domestic economy, technical education for girls, facilities for English students in foreign training colleges, and elementary or higher education in Ireland, Canada, Belgium, France, Germany, Denmark, Egypt, Spain, and the United States.

German and English Schools.

Mr. Sadler's papers on the Prussian *Realschulen* and *Ober-Realschulen* are exceptionally interesting. He begins by pointing out that in Germany, as with us, the present time is one of transition and experiment in the organization and curriculum of secondary schools. New types are rising in response to the public demand, while in many schools of older foundation modern studies are taking a more prominent place. The movement is not confined to Germany and England; it is making rapid strides "in all countries where the classical tradition formerly held almost unchallenged sway." The force and significance of the new tendency can, perhaps, be more easily traced in Prussia than elsewhere.

There, as in this country, the older ideal of classical training has been embodied in a noble system of public schools, directed by teachers of high attainment, animated by splendid traditions of public services, and secure in the pride and affection of all who have come under their influence or have recognized the far-reaching benefits which they have conferred upon the State. It is, therefore, in no spirit of vandalism or ingratitude that eminent leaders of German thought have formed the conviction that the older type of secondary school must, in the public interest, be supplemented by another, not less exacting in its standard of intellectual discipline, but more closely related in its curriculum to the needs and studies of the present day. So far, indeed, as the new movement has won its way in Germany, it has done so by gaining adherents not merely among those who are ignorant of what the older tradition can accomplish at its best, but from the ranks of men who have themselves been trained on classical lines, and who are bound by every tie of loyalty and instinctive preference to do nothing to weaken influences which they have found in their own experience to be good.

This is a candid and yet a moderate statement; but, if it is only a question of "supplementing" the Greek and Latin grammar school by others of a newer type for the same class of boys and girls, no man in his senses could raise the slightest objection. As an old student of Christ Church, Mr. Sadler knows exactly where the distinction between wise and foolish innovation comes in. It is interesting to note that his personal inspection of the Berlin *Realschulen* has convinced him that they keep before them, at every point of their work, the ideal of a liberal education.

They are not commercial schools, nor industrial schools. They aim at turning out well-educated boys, trained in habits of application, well equipped with knowledge, and qualified to address themselves, with good hope of success, to the duty of learning the trade or profession in which they intend to seek a livelihood. The curriculum, as has been seen, is purely a modern one. Latin and Greek are excluded. But natural science does not predominate in the scheme of work. The stress is laid on linguistic and literary (including religious and historical) studies, while mathematics, natural science, and drawing receive considerable attention. The aim of the schools is to draw the subject-matter of instruction very largely from those spheres of knowledge which are nearest to the pupil's present experience and to his probable career, to

train his reasoning powers and the habit of quick and accurate observation, and at the same time to cultivate the faculty of exact and appropriate expression.

If these schools are not classical in the old sense, they are not merely technical in the baldest sense of the term. That they are educational, even without a trace of instruction in the classical element of the mother-tongue (a defect less serious in Germany than in England), we will not dogmatically deny. They are, in any case, most valuable for their diffusion of useful knowledge. The curriculum, as Mr. Sadler describes it, has evidently a close bearing on the ideals of commercial training. The Berlin schools are certainly calculated to fit their pupils to acquire very quickly an intelligent and practical knowledge of business.

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Englishwomen in French Normal Schools.

The hospitality shown by French training colleges to English *Répétitrices* has provided many English girls with a year or two of excellent training for their future educational work at home. Miss Lydia Manley, of the Stockwell Training College, describes the system in an interesting paper; whilst Mr. Withers, of the Isleworth Training College, performs a like service in regard to the men students. We quote from Miss Manley's paper:—

The movement for sending English students to training colleges on the Continent is still in its experimental stage, but a few words as to the experience gained by our college up to the present may be of use to others who are considering the advisability of making some experiments in the same direction.

It may be said that no definite conclusions can be formulated as to the success of the scheme, as we have as yet sent only nine students abroad. But I have been able to visit personally some of the French colleges which now accept English students, to look closely into the arrangements made for them, and to consult with the heads of the colleges as to various questions that naturally arise in the management of the scheme; so that it may be well to set forth the main points requiring consideration before sending any students abroad under this scheme.

Roughly speaking, each department of France has its *école normale* or training college, which is in most cases recruited solely from the department in which the college is situated. But the Paris college draws students from the provinces as well as from Paris, and in the mountainous and sparsely-populated districts two departments join in one college. The course of training occupies three years, and the students enter at the age of sixteen. Besides these ordinary *écoles normales*, there is the Ecole Normale Supérieure of Fontenay-aux-Roses, near to Paris. Students enter Fontenay with the object of being teachers, not only from the ordinary colleges, but also from the *lycées* or high schools. They must have passed certain examinations before entering.

1. The most ready way for a foreigner to enter an *école normale* is as *répétitrice* or student teacher. A number of the colleges take English girls in this way. All the classes are thrown open to them: they are expected to teach a little English, but the French are, generally speaking, too good teachers of language to entrust much teaching to those whose knowledge is imperfect; the chief part of the duties performed by the *répétitrice* consists in talking English at certain times to the students. The *répétitrices* pay about £16 per year for maintenance and lodging, &c. They are most comfortably cared for and considered. A competitive examination for candidates wishing to fill these posts is held yearly at Newnham College, Cambridge; it is conducted by Miss Williams, of Paris, and by Miss Gardner, of Newnham.

2. The natural fear entertained by the Education Department in Whitehall, lest third-year students might become a means of providing cheap teachers for French colleges, made it for long impossible to obtain entrance for our students in this way. A kindly concession was, however, made by the French Ministry of Public Instruction, and another means of entrance provided. It was arranged to take certain of our students and to place them very much on the same footing as the French students. Students entering in this way have no special privileges as regards separate rooms, but share the students' dormitories; they also take their share in the domestic work, which is not heavy. They pay about £20 per year. All the classes are thrown open to them, and they are treated with much kindness.

3. But neither of these methods avails to obtain entrance into Fontenay, for no *répétitrice* is taken there, and no ordinary arrangements can open the door, though the fame of the college attracts many foreigners, who live in the village and attend the classes.

"Higher-Grade" Schools in France.

Mr. Morant, the Assistant-Director of Special Inquiries and Reports, contributes a noteworthy paper on the French system of higher primary schools. It will be interesting to compare this system, both in its growth and in its general features, with our own anomalous growth of higher-grade schools. We must refer the reader to the volume itself for a complete sketch of the *écoles primaires supérieures*, but we quote the following passages from Mr. Morant's general summary:—

In France the municipalities have long possessed very considerable powers for dealing with primary education, and they have exercised these powers, for many years past, to supplement the elementary school system by establishing communal schools for the purpose of meeting what is felt to be one of the most crying needs of the present day, viz., the continuation, beyond the elementary stage, and in a *practical* direction, of the education of the cleverest children from the working classes. These schools have now been brought under a State system of higher primary instruction, and are known as *écoles primaires supérieures*.

The ultimate purpose of the French Government in creating a State system for these higher primary schools is to assist the local authorities (by means of substantial central grants for salaries) to establish and maintain out of local rates, in every district of the country, public schools with no fees for instruction, which shall place within the reach of every really intelligent child who can afford to postpone wage-earning for two or three years after leaving an elementary school the means of obtaining—(i.) a continuation and completion of the subjects it has learnt in the elementary schools; (ii.) a practical acquaintance with such branches of knowledge, literary, scientific, and general, as bear directly on the various occupations in life in some one of which he or she will afterwards be engaged; (iii.) such general hand-and-eye training and workshop practice as will engender habits of manual industry, increase dexterity, and develop taste, and at the same time both halve the labours and double the fruits of that necessary apprenticeship (in the true sense of the word) at the workshop, the warehouse, the shop counter, or the counting house, for which it is meant to be not so much an alternative as a preparation; (iv.) when desired, *instead of* (ii.) and (iii.), a thorough technical training in one of the industries of the district, corresponding, as far as possible, to a regular practical apprenticeship, but with much better instruments and far higher standards of training than are obtainable in the actual "apprenticeship" of ordinary life.

Being day, not night schools, and in many cases boarding schools, they are obviously not intended, like the evening continuation schools, for the *great mass* of the rank and file of the working classes, who must have the day hours free for earning wages immediately on leaving the elementary school; but rather for the *élite* of these; the more capable intellectually, and the better-placed pecuniarily—those, in fact, who will become the *foremen* of industry and commerce—those who, if their skill, inventiveness, and taste are improved, can do more for the industrial, commercial, and agricultural prosperity of the nation than almost any other class of society.

While it is evident that, in point of organization and objects, these schools correspond in a manner both to our higher-grade schools and our municipal technical schools and institutes, inasmuch as they are supplied and largely maintained by local funds and aided by central grants, yet they differ from both of these in many respects, of which the following are the most important:—(*a*) No child may be admitted into the higher primary schools unless he or she has obtained the "certificate of primary instruction," and has passed a year in the highest standards of the elementary schools; or, in the case of children educated privately, can prove attainments equivalent to both of these requirements. The object of this limitation is to exclude all children who, being intellectually unable to profit by the higher instruction given, would fail to repay to the country, by their improved talent and industry, the value of the public funds that would be spent upon them. (*b*) The central grant is a fixed grant of about five-sevenths of the salaries of the necessary complement of teachers, and does not depend upon the number of pupils in attendance, nor upon the results obtained. The local authority can thus initiate new branches of education and maintain them adequately when they see an urgent need or an admirable opening for them in any particular place, even when public appreciation is insufficient to give them an assured basis of support. (*c*) These schools are specifically included under the Free Education Act as a part of primary instruction, so that no fees can ever be charged in them for instruction. (*d*) The local authority which provides and maintains these

schools is the same as that for all ordinary municipal work; and this local authority (the municipal or communal council) may expend out of the local funds as much as it pleases, and in any fashion, upon these schools. There is, moreover, no question of trespassing upon true secondary education, which is fully recognized to be quite different in *character*, as well as in degree, from the instruction given in these higher primary schools; nor any limitation as to competing with private schools, which the public schools are at full liberty to supplant, if they can do so under the ordinary process of educational competition, through the better quality of the instruction which they provide, aided, of course, by the compulsory absence of fees. (*e*) The central grant is only conditioned by a *general* observance of some one or more of the various alternative programmes of study issued by the Education Department. The central office, while in *all* cases requiring both a thorough general education and a certain amount of manual instruction (and ensuring this through its inspectors), permits also a free choice in the matter of *additional specializing*, whether for pupils intending to enter particular careers, or to meet special local requirements. This specializing may be literary, commercial, industrial, or agricultural; and the choice is entirely in the hands of the local authority, subject only to the approval of the central authority's inspectors, who are specially instructed to observe the varying educational needs peculiar to each locality in which they work. (*f*) The schools are put within the reach of, and are actually entered by, all the most intelligent and promising of the poorest class, by means of an extensive and universally applied system of scholarships provided in every school by the State (and often supplemented by the Department [*i.e.*, county] and the commune). These scholarships are given to those candidates who, after passing a strict competitive examination, can prove that their pecuniary circumstances would render them otherwise unable to continue their education; and, where distance would be an obstacle, the scholarships are tenable at boarding schools and increased proportionately.

It is impossible to find space for detailed notice of all the more serviceable and interesting papers in this very welcome volume, which would be sufficient in itself to justify the recent establishment of the Special Inquiry Office. We cannot leave them without drawing attention to the attractive account of the education of girls and women in Spain, by the Taylorian Teacher of Spanish at Oxford, and to the schedule of arrangements for the admission of women to the chief Universities in the British Empire and in foreign countries. This schedule has been prepared by Mr. Sadler, with the assistance of Mr. J. W. Longsdon. Inquiries were made as to the arrangements made in respect of women students at 162 Universities, and information has been received about 139. It appears that, at 100 of these, the distinctions made between men and women students are, if any, comparatively unimportant; at 7 Universities women students are admitted, by courtesy or special permission, to some lectures and examinations; at 21 others women students are by like favour admitted to some of the lectures; and at 11 Universities they are not admitted at all.

In the Universities of Wales, Scotland, Canada, Australasia, India, France, Holland, Denmark, Norway, Sweden, Switzerland (so far as the returns show), Italy, Greece, Roumania, and the great majority of those in the United States of America, women students are admitted to all or most of the educational advantages which are provided for men. In England, where they also enjoy great opportunities of academic study, the arrangements are hard to classify, owing to the fact that at Oxford and Cambridge women students have been granted substantial privileges on somewhat exceptional conditions. In Germany an increasing number of Universities permit women to attend some of the courses of lectures by special permission, but little is done beyond this. There seems, however, to be a growing desire to encourage women to study, tempered by some distrust of their powers and accompanied by a firm determination not to lower the standard of academic honours. In Austria and (with the exception of Finland) in Russia the Universities offer fewer facilities for women students. It appears that in Spain women do not avail themselves to any considerable extent of the right of admission to the Universities which is granted to them by the law.

Every one who is concerned in questions of general education will find that these "Special Reports" are quite indispensable.

UNIVERSITY EXTENSION COLLEGES.

The same straining after higher things which led in former years to the growth of several University Extension centres into fully-fledged University Colleges, has in the last decade brought about the establishment of smaller but in some ways similar institutions elsewhere. The University College, with its staff of resident professors, all of whom are men of academic distinction, can only exist where sufficient funds are forthcoming, either from the munificence of private donors or from public sources. In smaller towns or in less wealthy districts some humbler kind of institution is alone possible. This is the want which the University Extension Colleges aim at satisfying. Three of them now exist, the University Extension College, Reading, and the Technical and University Extension Colleges at Exeter and Colchester. The Reading College is the oldest, having made a start in 1892, and the example thus set by an Oxford centre was followed next year by the Cambridge centre at Exeter, which in turn was imitated last year by another Cambridge centre at Colchester. All three are commonly spoken of as if they were on identical lines, but there are many differences of detail, and some which are very important and which cannot but affect the question as to which type will be most likely to solve the question of higher education in our smaller towns. The Reading college is an independent corporation subsidized by various local authorities, but governed by its own Council. Indeed, it differs from a University College only in size and wealth, and in the absence of a special staff of professors, and in minor details. The Exeter College is of quite a different type. It is the result of cooperation between bodies which are otherwise independent, namely, the University Extension authorities, the Technical authorities of the city, and the University Local Lectures Syndicate.

The experiment thus made has already been imitated at Colchester, and there seems every probability that, before many years are over, other towns may follow suit by a similar grouping of their educational work.

At Exeter, under the same roof with the Free Library and Museum, there are carried on science classes, school of art, technological classes, central classes for pupil-teachers and assistants, University Extension lectures, and a series of day classes suitable for people studying for various examinations. This is a combination so full of possibilities, and, on the face of it, so desirable, that a few words as to the results it has hitherto attained are well worth giving. From the point of view of the technical authority, what has happened during the four years that the College has existed? When it started, the claim on the Science and Art Department for a grant on the results of examinations was £291; this year it will exceed £600. In the same time, although the total number of students in the Technical Department has more than doubled, those entering for examination have not increased to anything like the same extent, owing to the introduction of many subjects upon which no grants are earned. The figures, indeed, are given as an indication of the increased efficiency of one part of the work rather than a measure of the whole. There has been a steady fusion slowly taking place between the students of the various departments. Many are drawn in by the University Extension lectures, and, at the close of the course, pursue their studies on the same subject in a science class, or by joining some practical class not recognized by South Kensington. On the other hand, numbers of science students or pupil-teachers are induced to attend the lectures given by the Cambridge visiting staff, and thereby gain something of that freshness and vigour in their work which can only be got by listening to a specialist. At first the students of the different departments knew nothing of each other, but they are now fairly welded into a single body, and only this last summer raised among themselves a Jubilee offering of a hundred pounds towards some much-needed additions to the building.

From the University Extension point of view the advantages have been substantial, but they are not so immediately obvious. The College is affiliated to Cambridge, so a student can by studying three years at Exeter gain exemption from one of the three needed for a degree at Cambridge. But hitherto little use has been made of this, and so far the privilege cannot be said to have met the necessities of a local student. One great advantage the Exeter centre has, and that is the possibility of a student who attends a course of lectures getting a supplementary class. The reproach of superficiality often levelled at University Extension work cannot hold for a moment at a place where lectures can be so amplified. Moreover the centre is stronger and in every way more stable from the fact that it is only a part of a large institution. In many a centre of the ordinary type, if students do not wish for the subject current for a particular term, it too often happens that they withdraw their support, and take up other interests which drift them away altogether. Here they simply take some one or more of the numerous classes. The day classes are in one way a great difficulty. They must follow some well recognized curriculum, and the question is: What? Students who are giving up their leisure during some of the best years of life do not often care to do so simply from a desire for knowledge. They want a degree or its equivalent. Now the only degree open to them is the London degree, and it is consequently for the London degree that the University Colleges work. London thus dominates higher education in the provinces, as Oxford and Cambridge practically dominate the public schools through the Local Examinations and those of the Joint Board. But the University Extension Colleges are essentially connected with Oxford or Cambridge, and one of the results of the successful experiment in the establishment of the Exeter College is to create a grave question as to how the work of such a college, other than pure University Extension, can be brought into closer touch with the parent University. This is a problem the solution of which will probably carry with it the organization of higher education throughout the country, under the very authorities who already control the schools.

A. W. Clayden.

WHY NOT STATE BOARDING SCHOOLS?

Education has made gigantic strides during the last fifty years. The State did not open her eyes any too soon to the dangers of an untaught populace; but, having once clearly perceived it, she has hastened to make amends. The result is patent to all. There is a seat provided for every child in the British Isles whose parents are unable to undertake their children's education for themselves. This is effected by the dual system—at least in England and Wales. A denominational school is partly supported by the State and partly by voluntary subscription; a Board school is partly supported by the State and partly by local rates. Every child not otherwise provided for is compelled by the law of the land to attend one or other of such schools from five to thirteen, though certain regulations permit the withdrawal of the child either partially or totally at a slightly earlier age. Besides the Board and denominational schools, other educational agencies are employed for insuring the maintenance of the course of learning in the elementary schools, where children choose to avail themselves of it. This ground is covered chiefly by evening and technical classes. Now all honest men and women who have the interests of their children and of the nation at heart cannot but rejoice that such pains are taken on the bestowal of the elements of knowledge. There can be no question that immense good is being done. It would be beyond the purpose of this paper to contrast the social life of the working classes of twenty or thirty years ago with that of to-day, yet such a comparison would demonstrate most satisfactorily how immensely the general community has gained by the increased educational stimulus. In fact, so beneficial has been the result that one feels tempted to ask why the result should not be made a thousand times more so. For by those who have been brought into close contact with the sons of the working classes it will be recognized as true that they do still show many unhappy deficiencies of character which the very best educational methods cannot at present remedy. On the whole, and, of course, with notable exceptions, there is found amongst them a great ignorance of their true position in the world. To describe what is intended in more colloquial expression: they "have not found their own level." Included in this defect is, of course, either an exaggerated self-importance or an equally disastrous want of self-respect. Moreover, they have but little power of self-control, or endurance, or resourcefulness in difficulties. They have scarcely any conception of what is meant by *esprit de corps*, a very limited amount of self-reliance. It must be understood that the class of lad referred to in particular is composed of those who undertake civilian, not military or naval, employment.

What is the great "something" which boys educated in the first-class preparatory and public schools of England so conspicuously possess and which those turned out from the elementary schools of the country so noticeably lack? What is the secret by which we can produce in the higher walks of life boys of whom we may justly be proud, and who in many instances develop into the finest soldiers and sailors, merchants and financiers, judges and ministers, that the world can show. The answer seems to lie in what at first may sound strange and even inhuman. The finest men, as a rule, are those whose education has been carried on *away from home*. This truth is sufficiently well recognized by most of us whose lot in life has fallen in the higher planes of civilization. Every gentleman, if he has the means and opportunity, if his son's health permit, sends him to school *away from home*. This line of conduct is, we may say, almost invariable. It is only with regret that a parent permits his son to be educated by a private tutor. A public-school man is a man in request, not because he is probably something close to that intangible and indefinite ideal called "a gentleman," but because there is a certain kind of character of the most valuable and reliable nature usually associated with a boy who has been brought up under a public-school *régime*. He is considered a better man, a more useful man, a more desirable member of society. To demonstrate that this superiority is not due merely to birth or money, we have but to place two young men of equal birth and money side by side, one of whom has been privately, the other publicly, educated. It is possible that the former may know more facts, but it is very very seldom that he will be a more useful and practical man of the world. Indeed, an observant person can generally discover, without direct information, after a few minutes' intercourse, whether his companion is a public-school man or not. Now the secret of this superiority is to be found in the fact that the one has been partially deprived of his home life—the other has not. A boy on being taken from the direct oversight of his parents develops and hardens and stiffens in character at a remarkable pace. On entering a school he finds himself dependent for his peace of mind and general happiness upon nobody but himself. If he has conceit, he quickly has it reduced by boys who can surpass him and from whom he has no permanent escape. If he does wrong, he is punished with a kind firm impartiality, from which there is no appeal. If he be slovenly and apt to degrade, he incurs the contempt of his school companions, who are not slow to make it plain what they think of him. Away from his home, after the wrench and strangeness of parting are over, new interests spring up in multitude around him. Noble ambition urges him to compete against his school-fellows in class, and to excel in games. The honour and glory of his house and his school become to him the life-blood of his veins. During his schooling time he will, then, have learnt many and many a priceless lesson which nothing in books could teach him—no Admirable Crichton of a private tutor could instil into him. He will have gone through the school-life baptism of experience and be all the better man for it.

Turn now to other and more humble spheres of life—in the Army and Navy the same truth is abundantly illustrated. What is it about a sailor boy that makes him a lad of entirely different metal to his land companions, though they may be not one whit behind him in book learning and position? What does this superiority mean? It means that he went away as a boy to a naval training ship, where he was taught his duties, where he learnt obedience, where misdemeanour was punished without appeal. After a month or so he settled down amidst his shipmates, who took him for what he was worth, neither more nor less. He gradually took an increasing interest in his work, the ship became to him a second home, in which he could take an honest pride. He loved the ship and was never happier than when the ship or any of the crew connected with her obtained favourable mention from the captain or some other high officer. He then comes back home to his parents a lad of whom they might be rightly proud, though they could never have developed him to such an extent by their own efforts, however loving; a lad of whom England may be proud, a lad upon the like of whom our national imperial existence depends. The same is found equally true in the Army. A slovenly boy joins the ranks: he develops under the rough but splendid training of barrack life into a man who is clean and smart, capable and obedient, and whose heart is so stored with military enthusiasm that for the honour of the regiment, to rescue the flag, to serve the country and the Queen, he will follow his officer into the very jaws of death, and surrender his life without a murmur if only it be without the shame of cowardice or defeat. And, as with the sailor, so with the soldier: when such a man comes home, his parents most rightly and properly idolize him for a hero, though his heroism is not of their making, but is due to the hard stern unseen lessons of experience learnt in mess-room, dormitory, and barrack-square.

If what has been already said be admitted as true, is it too vain a hope to look forward to the day when the State shall make a provision whereby some of the inestimable benefits of a school period lived away from home may be conferred upon those sons of the working classes who are intended for civil life? To be brief and plain, we earnestly need, as the next step in the efficient education of the masses, not more subjects, or longer hours, or greater "cram," but elementary *boarding schools*. We need some arrangement by which children may be enabled to be at school, at least for a short period, *away from home*. Such a suggestion will not, it is believed, be considered absurd or impracticable if thoughtfully weighed.

The first objection to such a proposal would probably be that on the ground of expense. However serious that objection might be, at least it is met with an equally serious objection that a system of education which only partially develops the material at hand, and gives us lads who are scarcely competent to take their place in the world, is in the long run a very expensive form of economy. It was thought a matter of regret by some in the past that so much money should be devoted as at present to education, yet they are now as little accounted of as the few foolish individuals who object to substantial increase of expenditure upon the Navy. No doubt before such a scheme as that suggested in this paper could be thoroughly and efficiently established, the anomalies of the dual system of national and Board schools would have to be greatly rectified, if it was not found necessary to abolish the antagonism altogether and bring the whole educational system of the country under one organizing and controlling head. To that happy solution of our present difficulties there is some ground for supposing that opinion is tending. Let it be granted, then, that the desirability of establishing elementary boarding schools is fully recognized. The accomplishment of such a measure would necessarily be very gradual. Money would, in the first place, have to be found to provide for the erection in various parts of the country of school-houses large enough to accommodate boys in the last year, or, possibly, last two years, of the time which they now spend in the ordinary elementary day schools. The qualification for entering a boarding school would be based not entirely on intellectual ability (those secondary schools to which entrance may be gained from elementary schools by obtaining scholarships providing an outlet for specially gifted boys) but rather upon age; for many boys who possess but average ability possess sterling qualities which only need development to make them become extremely useful citizens. The bulk of the expense would, of course, fall upon the national Exchequer, yet the parents would be compelled to contribute to their sons' maintenance, for no scheme could be considered satisfactory which entirely relieved parents of the primary responsibility of humanity. Nor could this be considered a great hardship, for their sons must live somewhere, and, if not living at home, that is no reason why the parents should not contribute to their living elsewhere. As a matter of fact, this compulsory contribution would prove in the end highly beneficial to the parents, for they would be relieved of the custody of their children at an awkward and important period of the children's lives, and the increased capability which a boarding-school training would effect would enable the children to obtain better opportunities in later life of reaching a position in which they could assist, if needed, their aged parents. The education provided in these boarding schools would be, of course, practical and technical, equipping each boy as well as possible for the sphere of life to which it was intended he should apply himself. The actual gain in this respect might not be considerable; but the removal of the boy from home life, except during holiday time,

would most assuredly accomplish for him that which we have already noticed as so conspicuous in public-school boys and those educated for the Navy and Army. Beside the development of his intellectual abilities, his physique would be strengthened by systematic games and other athletic exercises; the intercourse with his companions would enable him to form a more correct estimate of his own worth. Lessons of personal cleanliness, modesty, and respectful behaviour would be enforced by daily practice under the eye of responsible masters; feelings of honourable pride in the success of his school, either in examination or in the playing-fields, would be kindled and fostered in his heart. An objector may say that the age of boys undergoing elementary education is too tender for such development, and it is certainly true that many lads are withdrawn from school far too young. Yet parents might be easily persuaded to permit their children to remain at school as long as possible, even if the law did not extend the time which the State already claims as essential to their education.

In conclusion, whatever may be thought of the suggestions laid down in this paper, and however Utopian and premature the ideas brought forward may appear, the main point cannot be denied—that day schools are less competent to turn out a high standard of individual character than boarding schools. Since this is so, it behoves us to turn our attention to remedying this defect. For our national and imperial greatness depends upon no vague and abstract thing, but upon the stability and trustworthiness of the characters of those who year by year are leaving schools to take their places in the national and imperial life.

A. L. Keith.

MEMORY AND MEMORY-GAMES.

It is on record that the visual memory of a certain English painter was strong enough to permit of his dispensing with the services of a model when once he had carefully studied his or her form and features. He had only to recall the image of the model, and the shape that rose before his mind's eye was so life-like that after a time he was unable to distinguish it from the reality, and even went so far as hotly to maintain that the living being was present when it certainly was not. This excessive development of one form of memory ended by disturbing the mental balance of the unfortunate artist, who was doomed to afford one more instance of the kinship between genius and insanity. Equally remarkable, though less pathetic, examples of historic characters possessing a strong visual memory are not rare, and the curious may read of some of them in M. Queyrat's interesting little book, "L'Imagination chez l'Enfant." We see this form of memory conspicuous by its weakness in persons who fail to recognize the faces of people they have met. On the other hand, one of my old pupils, who was by no means a genius, possessed it to an unusual degree. He told me that, when repeating lines of poetry, he was able to see in imagination the page of the poetry-book before him and the lines printed upon it. His power of visualizing was, from his point of view, particularly convenient, for his excursions into the paradise of English verse were not due to the promptings of personal inclination. That the visual type of memory varies from individual to individual we can gather from the fact that some recall what they have seen as a whole, whereas others recollect only the details with any distinctness. It is the type of which we know and hear most, though, for all that, it is not yet certain that it predominates in the majority of minds.

The next best known type is the auditory, and it is naturally found most highly developed in the minds of the great composers, who were often able, after one hearing, to recollect and reproduce long musical pieces without any apparent effort. I have seen it exemplified in an eccentric individual, who, in the smoke-room of a seaside *pension*, got on his legs and recited to me nearly the whole of the "Sign of the Cross." In everyday life we notice it in those who recall names, but who often experience considerable difficulty in recognizing the faces to which they belong.

Least known is the motory memory, the power to recall the image of things touched and of words spoken or written. A person with this form of memory predominant would be conscious, when repeating verses committed to memory, of the words being articulated in his throat. It appears also in those who remember best what they have written. When watching a class being taught on the Gouin system, I remember having seen the lips of one of the pupils in motion. Far from visualizing the wonderful legend of the *berger* stepping along, with his *chien* gambolling around him, to the fold where the placid *brebis* awaited them, she was simply repeating the words of the teacher, and reproduced them by pure force of auditory imagination. She was, of course, committing a capital offence against the pet principle of the Gouin school, which insists, above all things, upon visualization. The teacher proposes and the child disposes.

Much besides the satisfaction of our curiosity is to be gained by seeking to know which type of memory predominates, not only in our own minds, but also in the minds of our children and pupils. The knowledge obtained may help us to understand and explain their difficulties, guess their special aptitudes, and, in certain rare cases, save them from the results that may follow from the excessive development of any one form. This leads us to the second subject indicated in the title.

There is a game, known, perhaps, to many of my readers, which is played in the following manner. About a dozen knicknacks, easily found in odd corners or extracted from the numerous pockets of male members of the party, are placed on a table and covered with a cloth. Before this is done those who desire to compete are banished from the room. When all is ready they are summoned to the table, the cloth is removed, and they are allowed about twelve seconds to examine the objects exposed. Then the cloth is promptly replaced and the competitors withdraw to be called in one by one. While the person in the room is forcing his memory to yield a fair list of the knicknacks seen on the table, it is sometimes necessary to keep an eye on those outside, for on such occasions the locality of the keyhole becomes an object of interest to some whose memories have turned traitor. The person who can give the largest list is of course the winner. I have heard that a promise of chocolate will serve as a useful stimulant in the case of lady competitors, who, thus encouraged, will do wonders. I state this rumour for what it is worth.

The game is simple, it costs nothing (except the chocolate), and it is an excellent test of the presence or absence of strong visual memory. It can easily be made more difficult, and many variations suggest themselves, such as giving from memory a list of the articles in a particular room. This test would make it possible to distinguish those who noticed detail from those who saw general outlines.

The only test I can think of for the auditory type is to read out to the competitors twelve abstract words, such as cannot be visualized, or to make them reproduce from memory an unknown piece of music once heard. It seems almost impossible to discover a test that will isolate motory memory from the other types. But, knowing how the competitors stand to one another with regard to visual and auditory memory, it would be interesting to find out what differences a test in which motory memory was exercised would make in their relative positions. This might be done by allowing them all to read, say, sixteen words written on a board or sheet of paper, or, again, to write down rapidly a like list of words. In both cases the visual type would come into play, and in the first the auditory; but persons in whom the motory predominated would now be able to compete on more equal terms, and raise the number of points put down to their credit. An examination of the points gained for each kind of test would supply ample food for reflection.

In conclusion, these tests, which lose nothing in value or interest by being regarded as games, especially in the case of juvenile competitors, serve another useful purpose. Besides being tests, they are memory exercises. The more attractive they can be made the more stimulating will they be.

F. B. Kirkman.

UNIVERSITIES.

(*From our Correspondents.*)

London. A large number of Pass Lists have been posted since our last record. At the M.A., Branch I. (Classics), 12 candidates pass, and 7 of them are ladies, two of whom take the first and third places respectively, viz., Miss M. A. Hanbidge, of Bedford and University Colleges, and Miss E. McDougall, of the Royal Holloway College. In Branch II. (Mathematics) no candidate passes. In Branch III. (Mental and Moral Science, &c.) 6 candidates pass; and in Branch IV. (Modern Languages, &c.) only 4 pass. No gold medal is awarded in any branch.

There have been examinations in seven branches of the D.Sc. Examination, but candidates have passed in four only, viz., 1 in Zoology, 1 in Mathematics, 1, a lady (Miss Clare Evans, of the Central Technical College), in Chemistry, and 2 in Botany.

The candidates at the Intermediate Examination in Arts numbered about seven hundred; but the number of candidates successful (296), although small enough, is in larger proportion than for the last two years. Only 28 obtain Honours. In Latin there is no first class. In English 2 are in the first class: they are bracketed equal (at variance with the principle of alphabetical arrangement), and are both marked worthy of the exhibition. In cases of this kind the regulations require a further examination; but it so happens in the present instance that one of the two (Mr. John Ireland, a private student) is too old for an exhibition, which is accordingly awarded to the other (Mr. G. E. Darlaston, of Mason College). In French there are four candidates in the first class: the first in merit (Mr. L. Froger, a private student) is also over age, and the exhibition goes to the second (Mr. A. J. Barnett, another student of Mason College). In German there is only a third class, and in Mathematics only a second. 136 of the successful candidates are women, of whom 10 are in Honours, 2 taking double Honours.

At the Intermediate Examination in Science 149 candidates,

out of about four hundred, succeed, of whom 21 are in Honours, 4 taking double Honours. In the Chemistry Honours List two are in the first class; the exhibition is awarded to Mr. John Talbot, of Trinity College, Cambridge; and the other candidate (Mr. G. E. Shaw, of the Birkbeck Institution) is marked worthy of the exhibition. In Experimental Physics there are 3 in the first class; the Arnott exhibition and medal also go to the just-mentioned Mr. John Talbot; Mr. V. H. Jackson, of Balliol, gets the second Arnott medal and is marked worthy of the exhibition; and the third candidate (Mr. W. H. Eccles, of the Royal College of Science), although he gets nothing, is also marked worthy of the exhibition. There is no first class in Zoology, and no successful candidate at all in Botany. The names of 22 women appear in the Pass List, and 1 other is in Honours.

At the Preliminary Examination in Medicine, 54 candidates (3 being women) pass in all the subjects, and 1 is in Honours; 82 (8 being women) pass in Chemistry and Physics, and 60 (11 women) pass in Biology.

This July, for the first time, the "Conjoint" Science and Preliminary Examination was held. Fourteen candidates (12 pass, including 1 woman, and 2 Honours, 1 a woman) have succeeded in the whole examination, and are thus credited with a pass in both the Intermediate Science and the Preliminary. To show the working in other instances, we add that 1, who did not pass in Mathematics, is credited with a pass in the whole of the Preliminary; 12, who failed in Biology, are credited with a pass in the Preliminary Chemistry and Physics; and 1, who failed in the last-mentioned subjects, is credited with a pass in Preliminary Biology; the numbers of these partial passes are included in the numbers in the preceding paragraph. This Conjoint Examination was conducted upon the papers and practical work of the Intermediate Science Examination.

At the Intermediate Examination in Medicine 66 pass in the whole examination, and 9 others obtain Honours; 28 pass without the Physiology; and 29 pass in Physiology only. The Honours Lists are very scanty: only 2 succeed in Anatomy, 2 in Chemistry, 5 in Physiology, &c., and 6 in Materia Medica, &c.; but, of these, one candidate of unusual ability (Mr. W. H. Willcox, of St. Mary's) not only takes quadruple honours, but carries off the exhibition and medal in Chemistry, the exhibition and medal in Materia Medica, and a medal in Anatomy (the exhibition is not awarded), with a second class in Physiology; another candidate (Mr. William Gough, of the Yorkshire College) gets treble honours, obtaining the exhibition and first medal in Physiology, with a first class in Chemistry and a second in Anatomy; another candidate (Mr. E. A. Miller, of Guy's) gets double honours; and Mr. J. F. Northcott, of Cambridge and Guy's, obtains the second gold medal in Physiology.

We are informed that this year, for the first time, an essay was sent in by a candidate for one of the Granville Prizes, but was not up to the required standard of merit. In future the revenue from the Granville and Sherbrooke funds is to be offered, in the form of travelling or research scholarships, for competition at the D.Sc. Examination, but only when the amount at disposal in any year is not less than £100.

The revised Regulations that have been so long talked of and expected are now printed and ready for circulation; the Calendar will therefore probably be issued as soon as possible; but separate copies of the Regulations may be obtained gratis on application to the Registrar. For the Science and Preliminary Examinations the syllabuses in nearly all the subjects have been revised and remodelled. In Arts additional subjects have been introduced, and the system of options is extended—largely so at the M.A. Examination. At both the B.A. and B.Sc. degree examinations the plan of relieving Honours candidates from the pass papers, which has for many years been in operation at the Intermediate Examinations, has been introduced throughout. For Matriculation, Latin, English, and Mathematics stand pretty nearly as they did; Mechanics disappears as a compulsory subject, and its one paper is replaced by *two* papers in "General Elementary Science,"—a formidable conglomerate of Physics and Chemistry. These four branches occupy four whole days. An extra half-day is devoted to one subject to be chosen by the candidate out of two clusters of subjects, namely, *either* a language (Greek, French, German, Sanskrit, Arabic), *or* a particular science treated more at large (Chemistry, Mechanics, Sound and Heat and Light, Electricity and Magnetism, Botany). In this Matriculation scheme it seems to us that undue encouragement is given to science. A candidate who wants to matriculate on the easiest terms need take only Latin as his (non-English) language: in the two compulsory science papers he will have done a good part of the work towards one or other of the special sciences, which, accordingly, he will naturally select; and all this work will be so much assistance towards the Intermediate Science Examination; indeed, we just discover that the syllabuses in Sound, Heat, and Light, and Electricity and Magnetism, are word for word the same both for Matriculation and for the Intermediate.

REVIEWS.

Secondary School Methods.

Teaching and Organization, with special reference to Secondary Schools: A Manual of Practice. Edited by P. A. Barnett, M.A. (Longmans.)

This important volume is not only valuable in itself, but it is an eloquent witness to the force of the new movement in secondary education. Ten years ago such a volume could not have been written, or published, or read. It is expressly prepared for the use of secondary teachers, and all ranks of the profession are associated in the production of the various chapters. The training college, the public school, the grammar school, the girls' high school, the University, the primary school, and the kindergarten, all enter into the scheme of the work.

We reviewed some months ago in these columns a smaller volume, entitled "Aims and Practice in Teaching," issued by the Cambridge Press, and to some extent the two volumes overlap, but Mr. Barnett's book is far more comprehensive in its range. It not merely deals with methods of teaching the various branches of the secondary school curriculum, but also offers chapters such as those on "Organization and Curricula" (Mr. Pollard), "Form Management" (Mr. Arthur Sidgwick), "School Libraries" (Mr. Martin, of Clifton), which are equally important, but deal with subjects which are not so often discussed in works of this description.

Another characteristic note of the work is that it is clearly intended to present an exposition of current accepted methods and principles, and *not* to launch out into new and untried fields of reform. We find only two exceptions to this rule, to which we shall refer presently. The writers are most of them men and women who are widely known as authorities on the topics of which they treat—indeed, many of them have already published their views in one form or another. This circumstance, while it detracts a little from the novelty of the work, affords a guarantee of excellence.

Before dealing with the separate essays, we may mention three or four important topics which might have claimed a place, if the editor could have found room for them. After reading his prefatory chapter we are inclined to think that the omission is partly due to "the personal equation." Manual training is left out of account, except in Miss Welldon's paper. The preparatory schools might have had a small chapter devoted to them, and the larger and more delicate problem of the private school, as a whole, should surely have been handled by some sympathetic writer. Further, Mr. Barnett gives little, if any, recognition to the large field of topics which come under his title of "Organization," but which are not concerned with teaching—we refer to the out-of-school life, to the corporate life of the secondary school, in games and school societies, in the organization of the houses and hostels of boarding schools. These topics are necessarily touched upon in Dr. Dukes' paper, but they merit separate and comprehensive treatment. We are not prepared, however, to suggest the omission of a single article in the volume; hence our criticism would rather suggest the addition of chapters.

We now proceed to a brief notice of each paper. Twelve pages of introduction on "The Criteria in Education," by the editor, supply a brief philosophic discussion of the principles on which school curricula are based. The space given to Herbartian views is an evidence of the increasing interest which this school of pedagogic thought is exciting just now, but we think that Mr. Barnett gravely mistakes the Herbartian ideal. Herbart was very far from advocating what is known as an "all-round education." We miss in this essay precisely what the Herbartian, rightly or wrongly, claims to secure—the demand for a distinct moral issue as the ultimate aim of every teacher, as binding him to a course, both of teaching and of organization, from which neither the influence of tradition nor that of experience can exempt him.

Mr. Pollard's sketch of the "Time-Tables of First and Second

Grade Schools" is clear, and will prove helpful in many quarters. His pages are mainly descriptive, but he raises an important problem in his earnest plea for delaying Latin until boys are thirteen or fourteen years old. He would thus simplify the whole system of our large schools. His argument is worthy of serious consideration.

Miss Welldon's paper is disappointing. "The Kindergarten," as she describes it, with "lessons" in Scripture, reading, writing, and geography, is very different from the institution which Froebel had in mind when he invented the name. In former days the children of our secondary schools were kept at home till they were seven or eight, and picked up the three R's from mother or sister. This was perhaps a bad system, but we doubt whether the children will be better off nowadays if they are sent to school for "morning work" from 9.30 to 12.30. We miss that keynote of sympathy with the little child which is surely the one saving virtue of the kindergarten. Apart from this, Froebel's reform simply offers us a new kind of infant school, with manual occupations added to the familiar three R's.

Mr. Burrell's paper on "Reading and Speaking" is tersely put together, and will attract much attention. His references to authorities are valuable, but few will be found ready to take up his scheme for six reading colleges equipped with "six good readers." Mr. Morris, of the Gleadless Road Board School, in Sheffield, deals with "Writing" and "Drawing" in separate papers. In the first of these the hints as to rapidity seem to us to be of real value, but the rest of this contribution is of small importance. The paper on "Drawing" is of greater value. A comparative sketch is offered of the three chief organized schemes of drawing employed in this country, and the most novel of these, that recently accepted by the Education Department at the instance of Mr. E. Cooke, is carefully explained and illustrated.

"Mathematics" has been entrusted to the experienced hands of Dr. Wormell. As his views are familiar to the readers of this journal, we need not dwell upon them. His essay presents a clear and sympathetic exposition both of function and of method. We think that he might have expressed in bolder terms the dissatisfaction which all the best teachers of mathematics feel at our bondage to Euclid's "Elements."

In Dr. Edwin A. Abbott, on "The Teaching of English Grammar," we have another experienced hand to guide us. He has wisely adopted a novel method of defining his standpoint, by offering a series of "Notes of Lessons" which he would like to see given to young children. Teachers already familiar with his books will welcome the presentment of ideas in this new form. The editor himself has taken charge of "English Literature." His paper constitutes an able plea for giving this subject a worthy place in our secondary schools, but he himself recognizes that one main hindrance to the acceptance of his programme lies in our examination system. Boys cannot get the time in school to read "widely and copiously" in literature, so long as such reading is unrecognized by examining authorities. Hence we are afraid that this essay, stimulating and instructive as it is, will bear little fruit in practice. The short list of references at the end is useful, and we wish that Mr. Barnett had required all his contributors to follow his example. But we miss in his paper what we find elsewhere—hints towards a construeted scheme of studies through the three stages of a secondary school. The essay as criticism is valuable, but it does not go much further.

"Modern History" is treated by Mr. Somervell, of Harrow, in one of the brightest papers of the book; and Principal Withers follows with a shorter, but equally useful, account of method in "Ancient History." This is one of few essays in the book which pay regard to methods followed in foreign countries. In treating of "Geography" Professor Gonner has had a difficult task, for this branch of study has in the last few years been repeatedly written about. The paper is of fair merit, but does not take us very far.

"Classical Teaching" has been entrusted to the vigorous handling of the Headmaster of Haileybury. The reader will accept Mr. Lyttelton's views as to method if he first of all accept his doctrine that there is "a peculiarly efficacious power in these languages to strengthen the reasoning faculties." The essay is a clear and comprehensive exposition of current public-school ideas on the question. It would have been improved by references to other writers and to the methods of foreign countries. There is much, for instance, in Mr. Lyttelton's essay which was challenged thirty years ago by Henry Sidgwick in that unique volume of "Essays on behalf of a Liberal Education."

"The Teaching of Science," in the hands of Professor Miall, of Leeds, offers a sharp contrast to the previous paper; and we are a little surprised to find such a paper in the volume, for its spirit is distinctly that of the reformer, not of the veteran practitioner. But we welcome the contribution all the more on this account, for it gives evidence as to the variety of influences which are moulding the teacher's mind just now. Proper place is given to recent improvements in the teaching of chemistry and physics, but these, fortunately, do not monopolize the writer's attention. The papers by Mr. F. Storr on "Modern Languages," by Mr. Arthur Sidgwick on "Form Management," and by Dr. Dukes on "Health and Physical Culture," need not detain us, for the names of these writers are familiar, and they have already published their views on these topics elsewhere. The subjects could not have been committed to better hands. Dr. Dukes, of course, holds advanced views, especially with regard to overpressure; but we need medical men at times to raise a friendly danger signal.

Dr. McNaught's paper on "Vocal Music" is meritorious, but there is no hint of experience as to the special conditions under which music has to be cultivated in secondary schools. Surely some reference should have been made to the work of John Farmer at Harrow and Edward Thring at Uppingham. The editor has done well to secure a paper from Mr. Ruckle, one of his former colleagues at Isleworth, on "Ineffectiveness in Teaching." We have here a sound discussion of the general principles which a "master of method" offers to intending teachers. Much, of course, is commonplace to experienced schoolmasters, but none the less important on that account.

Mr. Glazebrook, the Headmaster of Clifton, has a few pages on "Specialization." His practical suggestions are to the point, but the crude faculty-psychology on which he bases these might have been omitted. The paper on "School Libraries" should be read in connexion with the earlier chapters on English Literature and History. It will prove very useful. Equally practical and useful are the twelve pages on "Furniture, Apparatus, and Appliances," by Mr. W. K. Hill.

Mrs. Sandford, of Chester, concludes with a paper on "Organization and Curricula in Girls' Schools," which supplements Mr. Pollard's paper at the beginning of the volume. Her sketch of the origin and development of the high school is admirable, and, although she is naturally enough a zealous advocate of a system which she herself has done much to improve, her tone is not extravagant. Her account of the methods of physical record adopted in Sheffield and in the North London Collegiate School will be new to many readers.

The time-table on page 409 strikes us rather unfavourably; it is surely impossible to teach some dozen subjects effectively in 17 hours 30 minutes per week! An index, not of any great value, is added at the close. Our rapid analysis of the chapters will convince the reader that the book will be widely read in many quarters, and will serve its purpose as a standard of reference with regard to the current practice of teachers of repute in our secondary schools.

Carthage and Rome.

"Heroes of the Nations." Edited by Evelyn Abbott, M.A.—*Hannibal: Soldier, Statesman, Patriot; and the Crisis of the Struggle between Carthage and Rome.* By William O'Connor Morris. (Putnam's Sons.)

There is a wealth of promise and suggestion in the threefold title elaborated by Mr. O'Connor Morris; but, as the book fully corresponds to the title, there is nothing to complain of in that. The theme of this latest volume in Messrs. Putnam's interesting series is as picturesque as any biographer or historian could desire. The rise and fall of Carthage; the Semitic trading colony which sprang into vigorous life before the city of Rome had made its mark on the opposite European shore; the merchant empire which extended its sway over northern Africa, Spain, Sicily, and the isles of the western Mediterranean, and filled the sea with a navy of enormous quinquiremes and fleets of adventurous traders; the successful rival of Rome and Greece, who hated and scorned the growing Republic—and, if poetry were history, what a seed of hate had been sown in the funeral pyre of Phœnician Dido!—the staggering blow dealt by the Afro-Asiatic at his stubborn Italian foe; the splendid qualities and achievements of the Barcas, who may well have had the blood of Barak in their veins; the fate of Regulus, Æmilius, the elder Scipios; the fame of Fabius, Marcellus, Scipio Africanus; above all, the fame and fate of Hannibal, who has been called the father of the

art of war, and who enjoyed such a triumph at Cannæ and Capua as has been given to few warriors before or since—these are some of the salient incidents with which Mr. Morris has to deal. He has treated them, on the whole, with as much detail and accuracy as the meagreness of history permits, though without much imagination or vivid illustration. He recognizes the prejudice and spleen of Livy, and prefers Polybius as a narrator of actual events, but he is more concerned to support and rehabilitate the character of his hero than to sift the evidence of contemporary and later writers on the condition of Carthage and the character of the Carthaginians. He paints the countrymen of Hannibal in the darkest colours; but there is no reason to suppose that the Barcas were wholly exceptional, and in sharp contrast with the general body of the citizens. The story of Carthage has been told by her bitter enemies, and her records were destroyed in the ruthless sack and destruction of the doomed city. Her history is a sealed book, yet she had her own culture and arts and letters, and it is not likely that her populace was merely contemptible.

Mr. O'Connor Morris is full of his subject, and he has written a book which is both helpful and attractive. In addition to the Greek and Latin authorities already mentioned—almost our only direct channels of information — he has made good use of Mommsen, Arnold, Hennebert, and other moderns. Of course he does not neglect the inevitable comparison with Napoleon, or Napoleon's shrewd remarks on the Carthaginian strategist, or the discussion which has long been waged over the crossing of the Alps, the march through the Apennines, the Battle of Cannæ, and the fatal field of Zama. He is especially careful and clear in his comments on the military movements of the leading generals during the Second Punic War, though for purposes of comparison he might easily have assembled a larger number of illustrations. For instance, both Cannæ and Zama appear to have been won by the same strategy. In each case the cavalry of the victor stripped the enemy's horse from his flanks, pursued it until it was demoralized and dispersed, then dashed suddenly upon the rear of the infantry, and so decided the fate of the day at the critical moment. Scipio may have learned his lesson from Hannibal, and carefully laid his plans for it; and he had the Numidian horse at Zama, ready to execute the movement. Mr. Morris mentions the two cases, but he does not connect them, or give us parallels from other famous battles. Nevertheless his commentary is thoroughly adequate as a whole, and his book, as we have implied, is very readable and acceptable. The pictures are well chosen, and the maps and plans are illustrations in the true sense of the word.

The Crisis of the Western Church.

"Periods of European History." Edited by Arthur Hassall, M.A.—*Europe in the Sixteenth Century.* By A. H. Johnson, M.A. (Rivington, Percival, & Co.)

Mr. Johnson has undertaken the fourth of the periods into which Mr. Hassall divides the field of European history, coming between Professor Lodge's "Close of the Middle Ages," not yet published, and Mr. Wakeman's "Ascendency of France," which we noticed some time ago. The sixteenth century was one of critical importance. In England it included the reigns of Henry VIII. and his three children, Edward, Mary, and Elizabeth; on the Continent, the Franco-Spanish invasion of Italy, the struggle between the Emperor Charles V. of Germany and Francis I. of France, the Battle of Pavia, the Counter-Reformation, the Council of Trent, the rise of the Jesuits and the growth of Calvinism, the thwarted ambitions of Philip of Spain, the Revolt of the Netherlands, the Reformation and civil wars in France. Here is a long chain of highly critical events; and for an Englishman, in particular, there is no need to insist on the enormous significance of the Tudor age.

How is such a period as this to be treated in the course of some four hundred and fifty octavo pages? How does Mr. Johnson, whose historical instinct is manifestly keen and alert, surmount the difficulty? He had to choose between "a very slight sketch" of the whole century of European history—which the title of the series rather led us to expect—and a more studied treatment of a selected portion. He has decided on the latter alternative, and has ruled out the affairs of Britain and of northern and eastern Europe. It is a drastic measure, but we believe it is a wise one. We have our own history well told in many other volumes, and it is quite as much as Mr. Hassall and his colleagues can do to give us a comprehensive and satisfactory scheme of European history so far as it turns upon the policy and interactions of the great Continental Powers. Within these limits we find Mr. Johnson's survey and exposition an excellent piece of work. His chapter on the Counter-Reformation is, in some respects, the most interesting and valuable of his nine divisions, including as it does a very readable account of Loyola and the Society of Jesus, a sketch of the contrasted fanatics at Geneva, and a lucid outline of the third session of the Council of Trent, which, in point of fact, summarized and confirmed what is known as the Counter-Reformation. The skill of the Italians on that Council availed to divide and defeat the forces which made for reformation within the Church; the power of the Papacy, which a majority of the cardinals had originally desired to limit, was practically increased, and, as Mr. Johnson puts it, from that time forward the Catholic Church of the West was to remain divided, "and the Church of Rome may be said to have begun."

Elementary School Histories.

(1) *A Short History of England.* (Marcus Ward.) (2) *Chambers's National History Readers:* Scheme A, Standards I., IV., and VII. (Chambers.) (3) *The Waverley Historical Reader:* Scheme A, Fifth Book. (McDougall.)

The teaching of history in elementary schools is a standing difficulty. It is quite impossible to fix the vast multitude of facts, even in the history of England, in the careless heads of little boys and girls, not yet impressed with their importance, and not very much disciplined by way of preparation for the task. Equally impossible is it to communicate to the most studious and attentive young reader any real understanding of the significance of the facts. What is conceived to be possible in the circumstances is indicated by the usual style of the elementary history books, which are sedulously written up to the prescriptions of the Code. The thing must be simple, picturesque, and vigorously stripped of detail; there is obviously no use in presenting anything unless the mind of the pupil has a peg to hang it on. Whether or not he will hang it anywhere is another matter; he must at least have his chance.

Chambers's "Reader for Standard IV." consists of a series of "stories and biographies from British History from 1485 to 1688." The selection of subjects is certainly a good one, and the facts are presented with effective statement and disposition. Caxton and the first English Printing Press, Columbus and the Discovery of America, the Tudor Sovereigns and their distinctive character, the romantic side of Mary Queen of Scots, the Armada, the Pilgrim Fathers, Cromwell, and so forth—these are subjects that cannot fail of interest even in Standard IV. Nor can one say that there is not here a certain beginning of historical information and interest, a clear advance on the stage of Jack and the Beanstalk. The adult mind would probably think so; very likely it is so in fact. Yet when you come to hear and read the answers to questions on what is read in such books, you cannot but speculate on the possibility of doing something to present the facts in a more real light to the untutored and inexperienced mind. The same thing applies, *mutatis mutandis*, to Standard VII., "British History from 1603 to the Present Time."

"The Waverley Reader for Standard V." is not professedly a series of stories and biographies, yet it is of the same character as the other. It begins with William III., and comes down to the last generation. Here are the Massacre of Glencoe, the Jacobite risings, the picturesque outlines of the most salient deeds of Clive, Hastings, Wolfe, Captain Cook, Marlborough, Nelson, Wellington, of the Crimean War and the Indian Mutiny. The added year of age admits, further, the story of the fight against slavery, of reform, of machinery, of steam, of gas and electric lighting, of the penny post and the telegraph, and even of the telephone. The book is up to date. It cannot but be useful to plant such historical facts, however unpromising the soil. The author plants them very well, too. But we should hope that the teacher will amplify the material considerably in actual class work, in order to foster to some increased vitality the rather tender plants.

Marcus Ward's "Short History" is obviously meant for a still higher stage, simple as it is. Like the others, it is cut into chapters of the proper reading-lesson length, and subdivided into numbered paragraphs in the regulation fashion. Like the others, it is furnished with pictures, more or less fanciful and useful; it has also a map or two, not only useful but necessary. There is nothing special to remark about it, any more than in the case of the other two. It suggests the desirability of repeating that the teacher must supplement freely in practice. The causes of

historical occurrences and large popular movements cannot be disposed of in a line to any good effect, much less in an epithet. The author must, in the circumstances, do as he may, assume a great deal of knowledge that his young readers certainly will not be found to possess, and, on the other hand, the readers will possess a large assortment of ideas that a capable teacher will take pains to discover and dispossess. Nor will the teacher lack opportunity of giving greater precision to many of the statements curtly set down by the author. For instance, it seems a strong thing to say that "now no one can be found to defend" the Crimean War. Ask Mr. Gladstone! Again, "while the natives had the upper hand" in the Indian Mutiny, "they most barbarously treated the Europeans who fell into their power, and in cold blood murdered men, women, and children." This is true, and yet there were most notable cases where the natives did nothing of the kind—where natives even protected Europeans that would otherwise have been slain; and, moreover, there is the noteworthy fact that but for native loyalty we should in all human probability have been turned out of the country, or at any rate have had a much harder job to put down the rebellion—which, by the way, was not a "general rebellion."

These are good little books within their scope and purpose, but it lies with the teacher to work them to their proper effects.

FIRST STEPS TO WAGNER.

The Epic of Sounds: an Elementary Interpretation of Wagner's Nibelungen Ring. By Freda Winworth. (Simpkin, Marshall, & Co.)

The author of this little book apologises in her preface for the appearance of another work on the subject of Wagner and his creations. There, is, however, no call for apology, since the volume is really a good first guide through the difficulties of the "Ring." Not claiming to be other than elementary, it gains considerably from its modesty, and there are but few features to which exception need be taken. Most readers will probably consider the "ethical exegesis" as less valuable than the rest of the book. It may well be that "the likelihood that cunning will overreach and betray itself" is exemplified by Alberich, Hagen, and Mime; or that "even gods are bound by their laws" is exemplified by Wotan. But the plague of allegory is one that rapidly spreads, and it should be kept strictly within bounds. Miss Winworth would have done well to be at greater pains in the matter of her punctuation. Take, for instance, this awkward sentence from the remarks on "Siegfried":—"Wanderer now rises, and tells him, that, instead of inquiring about that which would have been of some use to him, Mime has sought to acquire knowledge, that is utterly worthless." There is a superabundance of commas throughout. But these defects are small, while the merits of the book are many. The descriptions of the four dramas are clear, and the table of Principal Motives at the end is extremely useful. The preface has some just and amusing criticisms on those who "don't like Wagner," including (we see) Professor Max Müller. "The Epic of Sounds" deserves to be read by all to whom Wagner presents difficulties; but why is it labelled the "Queen's Diamond Jubilee Edition"? The connexion is sufficiently remote. "What's Hecuba to him, or he to Hecuba?"

SHORT NOTICES.

MISCELLANEOUS.

Some Helps for School Life. Sermons preached at Clifton College. By the Right Rev. Bishop Percival. (Longmans.)

After an interval of nearly twenty years, Dr. Percival prints a new edition of his well-known Clifton sermons. There is a note of sadness in the Bishop's preface, which he has uttered more than once of late in varying circumstances. He does not preach soft things of the closing decade of the century; he does not believe that the progress of the last twenty years has been such as to render the rudimentary lessons contained in this volume less applicable or less necessary. "If we turn to questions of social and public duty, and endeavour to treat them as an integral part of our Christian life, the sermon on Christian enlightenment, which was called forth by the Bulgarian atrocities and the low or cynical forms of public sentiment then prevalent in many quarters in regard to our duty as a nation, might, I fear, have been preached not inappropriately, *mutatis mutandis*, in a great many of our churches or chapels at any time during the last two years." There is a fine, manly, unshrinking enthusiasm in all that Dr. Percival writes and says. These sermons are instinct with eloquence of the highest order.

Children's Ways; being selections from "Studies of Childhood," with some additional matter. By James Sully, M.A., LL.D. (Longmans.)

This is the more "popular" half of Professor Sully's recent "Studies," with the funny pictures and the good stories, and without the abstruse discussions. The author, in fact, has consulted the interests or demands of the general reader, not without a hope of luring him on, here and there, to the larger volume. Certainly there ought to be a good market for this lighter budget of children's thought and fancy.

Kallistratus: An Autobiography. By A. H. Gilkes. (Longmans.)

By a coincidence such as happens now and then in the press of new publications, Hannibal greets us simultaneously as the hero of a sober biography by Mr. O'Connor Morris and as the hero in the background of Mr. Gilkes's short historical novel of "Kallistratus." There is life and colour and refinement in this story of young Romans and Greeks, written for young Englishmen by the Master of Dulwich. The picture is fanciful, but with the cultured and fruitful fancy of one who knows his subject and is in sympathy with his characters. This book is particularly suitable as a present for boys or girls whose education has been mainly classical.

(1) *Macmillan's Geography Readers, Book IV. The British Empire.* (Macmillan.) (2) *Longmans' Geographical Series, Book III., Part I. Europe.* Longmans.)

The fourth "Geography Reader" published by Messrs. Macmillan & Co. deals with the British Isles, Canada, and the Antipodes, but not with the Cape or the Dependencies. The title, therefore, is not precisely descriptive of the book, nor do we observe any explanation of this discrepancy. Messrs. Longmans' "Europe" is a detailed treatment for senior students. Within the compass of three hundred clearly-printed and well-illustrated pages, it presents a generally adequate idea of European geography.

French Stumbling-blocks and English Stepping-stones. By F. Tarver, M.A. (Murray.)

Here we have an excellent little book, specially designed for the use of English form-masters who teach French as well as classics. Mr. Tarver was educated in England, and taught French at Eton and elsewhere for forty years, so that he knows what he is about. His book is clearly arranged; it removes a thousand difficulties which would scarcely be suggested in an ordinary French grammar; and it devotes just half of its space to an alphabetical list of English expressions of everyday occurrence, not mere idioms, which cannot be turned literally into French. We commend the book to intelligent students who do not happen to be in constant communication with a shrewd French teacher.

L'Aide de Camp Marbot. Edited, with notes, by Granville Sharp, M.A. (Longmans.)

Mr. Sharp has provided a good French text, consisting of selections from the bright and interesting "Mémoires du Général Baron de Marbot." Apart from the value of this book as an annotated French reader, it is interesting and attractive as a narrative, and that is always a point to be considered in choosing a new school-book. The style of Marbot is simple and straightforward, and Mr. Sharp has done well to make his notes mainly historical.

Chess for Beginners and the Beginnings of Chess. By R. B. Swinton. (Fisher Unwin).

This is a third edition of a very readable and comprehensive introduction to chess. We use the word "readable" as precisely expressive, because the book is not very technical, being rather a general gossip about the game of chess than a practical introduction to the art. It is full of out-of-the-way information.

We have received the following publications:—

The Forty-fourth Report of the Department of Science and Art of the Committee of Council on Education, with Appendices. (Eyre & Spottiswoode.)

The Code for Evening Schools, 1897–8. Edited by H. S. Cornish. (Grant & Co.) *The Code of Regulations for Evening Continuation Schools, 1897–8.* Edited by T. E. Heller, LL.D. (Bemrose.)

Tourist Guide to the Continent. With map and illustrations. Edited by Percy Lindley. (30 Fleet Street.)

The Talisman; a Tale of the Crusaders. By Sir Walter Scott. (Marcus Ward.)

Religious Instruction in Schools (Glasgow: Gibson & Sons)—graduated paraphrases of the Bible, with hymns, psalms, the shorter Catechism, &c.

Practical Millinery, by Jessica Ortner (Whittaker & Co.)—an attempt to systematize instruction, sensible and workmanlike.

Philips' Certificate Atlas of Europe (Philip & Son)—a handy shilling collection of 23 coloured maps of European countries. *The Excelsior Scholarship Atlas* (Bacon & Co.)—for candidates for the Queen's scholarship examinations.

All About Animals (George Newnes)—a fortnightly series of excellent photogravures of animals from the Zoological Gardens.

From the Oxford Shorthand Co., Dover, we receive samples of a new

series of *Triplicate Exercises*, adapted to the thirteenth edition of the Oxford method, which are claimed as being "the greatest aid to teaching shorthand ever published in any country." Each exercise is printed in three forms, exactly corresponding: (1) longhand and shorthand; (2) longhand only; (3) shorthand only. They are carefully graduated to illustrate the principles and resources of the system, and are produced on ruled paper, tallying with the "Oxford Shorthand Writing Books," in which the exercises are to be worked.

LITERARY GOSSIP.

Lord Acton will be assisted in the editorship of the "Cambridge Modern History" by Principal A. W. Ward, of Owens College, Manchester. This comprehensive history of modern times will be issued by the Cambridge University Press in twelve volumes of about seven hundred pages each; and will cover the period from the end of the Middle Ages to the present day. The first volume, dealing with the Renaissance, and containing an introduction, on the "Outcome of the Middle Ages," contributed by the Lord Bishop of London, will not be ready until two years hence. Many historians of this country and America will be among the contributors to this work.

The Reference Library of the Education Department is open to readers daily at 43 Parliament Street, S.W., from 10 a.m. to 5 p.m. (Saturdays to 2 p.m.). The Library contains foreign and other official reports on public education, and copies of British and foreign educational newspapers and magazines. The greater part of the English and foreign works on pedagogy and educational administration, formerly kept at the South Kensington Museum, have been transferred to, and amalgamated with, the Library of the Education Department; but the books on natural science, as well as the general section of the Library and the works of reference needed by students preparing themselves for examinations, remain, as heretofore, in the Science Library at the South Kensington Museum.

With respect to the last-mentioned Library, here is an observation from an "unmuzzled" South Kensington official:—"The amount of money that has been wasted here is simply appalling. When I came here I found there were two men employed to get periodicals, &c., ready for binding. I found whole rows of volumes expensively bound in morocco, with gilt edges, and, looking into them, found them to be nothing more than a collection of the advertisement pages of various periodicals. There were some two hundred or more of them; and not only was there the waste in binding such rubbish, but they filled up valuable shelf-room. So they all went back to the paper mills."

The same official, in the course of a recent interview, maintained that the Director of the Museum should be the head of it, as the Director of the British Museum is the head of that Library. "He did not care for the personal aspect of the matter; what he was concerned for was that the Library should be of practical value to students, designers and artists. This was the first place of the kind established. Now all over Germany there was hardly a third-rate town without an imitation of it, where proportionately much more work was done for less money."

Mr. W. G. Aston, who lately acted as Secretary to the British Legation at Tokio, is to write the volume on Japanese Literature for Mr. Heinemann's new series on the Literatures of the World. German Literature (too much neglected even by educated English readers) will be dealt with by Dr. Herford, of the University of Wales. Dr. Brandes, the distinguished Danish scholar and critic, is to write the volume on Scandinavian Literature. The one on Hungarian Literature has been assigned to Dr. Böothy, of the University of Budapest.

The Cambridge University Press has recently published the text, with notes, of some of the letters said to have been written by Pontius Pilate to Herod Antipas concerning the deings of our Lord.

COLLEGE OF PRECEPTORS.—CERTIFICATE EXAMINATION.

ERRATA IN CLASS LIST (June, 1897).

First Class (Boys).

Insert in Pass Division: Larner, H. S., Camden Road Coll. S., *and omit in* Second Class, First Division.

Second Class (Boys).

Insert in Second Division: Matthews, H. P., Private tuition, *and omit in* Third Division.

Third Class (Girls).

Insert in First Division: Chudleigh, W. M., Wimborne Minster Coll., *and omit in* Second Division.

In First Division *read* [2]Pike, E. M., Finsbury Coll., Camden Rd. N., *for* [1]Pike, E. M., Finsbury Coll., Camden Rd., N.

In Second Division *read* Swanston, C. E., Finsbury Coll., Camden Rd., N., *for* Swanston, C. E., Finsbury C., Camden Rd., W.

CORRESPONDENCE.

THE RIGHT OF APPEAL.

To the Editor of the Educational Times.

Sir,—The vital matter of reasonable security of tenure has for some time been in an unsatisfactory state in connexion with headmasters of endowed secondary schools in England; neither has the subject been threshed out by the late Royal Commission on Secondary Education.

It is believed by some that the existence of a right of appeal to some impartial authority, although it might not result in the continuance of a headmaster at a school where he and his governing body were likely to remain at variance, might operate as a check upon the arbitrary or ill-considered action of the governing bodies of the smaller schools, and might place in a better light for future employment cases of forced resignation and of unmerited or capricious dismissal.

The headmasters of primary schools evidently consider the right of appeal both fair and valuable, and have, I believe, a committee empowered to consider and, if necessary, take strong action in cases of unjust treatment.

Considering the effect of a dismissal or forced resignation on the future prospects of any head master or mistress, the question arises whether head masters and mistresses should not claim for themselves the right of appeal at a time when the central authority is being formulated. It is probable that this right will not be conceded unless it be claimed by those primarily affected by it, whatever individual estimates of the practical value of the right may be.

I shall be glad to hear from any head master or mistress of an endowed school who may favour a right of appeal.—I am, Sir, your obedient servant,

Souldern, Banbury, *August* 11, 1897. Thomas Allen.

THE MILLER TESTIMONIAL.

To the Editor of the Educational Times.

Sir,—The "anonymous" money order from India came from Professor Krishnachandra, Calcutta, 5s. The subscription appears near the close of the third list. I shall be glad if you will mention the name in the next number of the *Educational Times*.

The subscriptions received since the third list was closed are the following:—

	£.	s.	d.
Miss Meyer, Girton College, Cambridge ...	0	5	0
Right Honourable Sir John Lubbock, Bart., M.P., D.C.L., F.R.S.	1	1	0
Professor J. E. A. Steggall, M.A., Dundee ..	0	10	6
L. Sergeant, B.A. Cambridge	0	10	6

I shall be glad if you will kindly intimate in the September *Educational Times* that the list of subscribers will be closed on Saturday, September 18, and that a complete list, alphabetically arranged, will be published in your journal in October, together with the Treasurer's balance sheet.—Yours sincerely, Robert Harley.

Rosslyn, Westbourne Road, Forest Hill, S.E.
August 18, 1897.

A DIFFICULT PROBLEM.

To the Editor of the Educational Times.

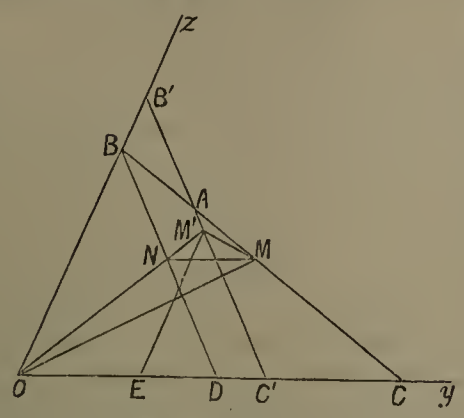
Sir,—Can you or any of the readers of the *Educational Times* suggest any means by which I can teach a girl of sixteen how to spell? Her education until the last year or two has been much neglected, and she has neither means nor inclination for reading outside the schoolroom. I do so want her to pass Second Class College of Preceptors; but she never will unless this great difficulty be overcome. Thanking you in advance for your kind consideration, I remain, yours faithfully,

A Private Governess.

MATHEMATICS.

11091. (Professor Neuberg.)—On donne deux droites Oz, Oy et un point. Par A, on mène une sécante quelconque qui rencontre Oz en B, Oy en C; on partage BC au point M dans un rappert donné m/n. D'après un théorème connu, le peint M décrit une hyperbole. Démentrer que l'aire du secteur décrit par le rayon vecteur OM est proportionnelle à $mn/(m+n)^2$.

Solution by H. W. Curjel, M.A.



Let B′C′ be another position of BC, and M′ the corresponding position of M. Draw BD parallel to B′C′, cutting OM′, OC in N, D. Draw M′E parallel to OB, cutting OC in E. Then MN is clearly parallel to OC.

$\therefore$ $MN = m/(m+n) \,.\, DC$; but $M'E = n/(m+n) \,.\, OB'$;

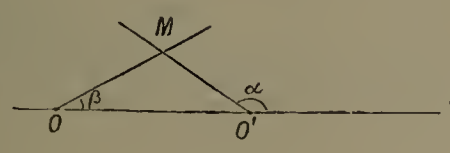
$\therefore$ $\triangle OMM' = mn/(m+n)^2 \times \triangle B'DC$.

Therefore each of the indefinitely small triangles with vertex O, into which the hyperbolic sector may be divided, is $= \dfrac{mn}{(m+n)^2} \times$ the area of a corresponding indefinitely small triangle, whose area is independent of the ratio $m : n$.

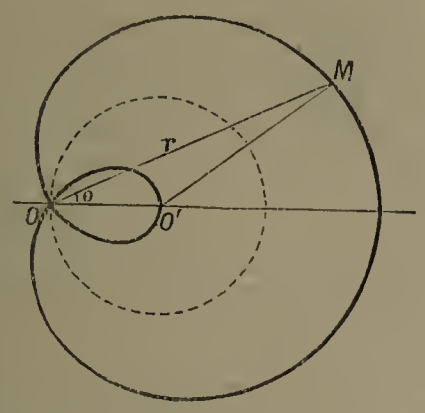
Hence the theorem.

13524. (Professor C. Cochez.)—On donne deux points O, O′. Lieu de M tels que, OM et O′M tournant autour de O et de O′, on ait

$$\alpha = \tfrac{3}{2}\beta.$$



Solution by Rev. J. Cullen, B.A.; L. E. Reay, B.A.; *and others.*



Let $OO' = a$.

Then

$$r/a = \sin \tfrac{3}{2}\theta / \sin \tfrac{1}{2}\theta;$$

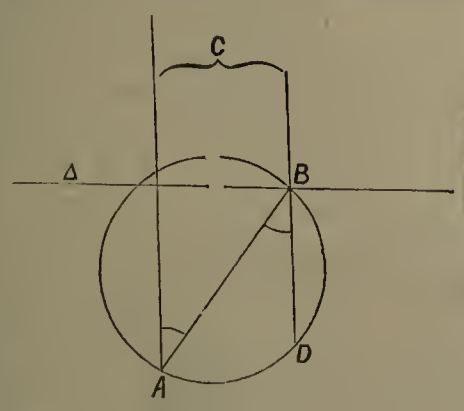
$$\therefore \quad r = 2a \cos\theta + a.$$

Hence the locus of M is the outer loop of a limaçon.

The inner loop gives the locus when $\beta = \frac{2}{3}(180° - \alpha)$.

13540. (C. Bickerdike.)—A point B moves in a right line, and A is a fixed point; the line BC passes through a fixed point D; the angle BAC is constant. Required the locus of C.

Solution by Professor A. Droz-Farny; Rev. J. Cullen, B.A.; *and others.*



L'angle BAC étant constant, ses côtés sont les couples d'un faisceau en involution; or, les faisceaux AB et BD étant perspectifs, il en résulte que les faisceaux AC et BD sont homographiques et par conséquent le lieu de C est *une conique* passant par les points A et D. Les rayons AC et BD deviendront parallèles lorsque

$$BAC = ABD = \phi;$$

de là le théorème:

Faisons passer par A et D un segment de cercle capable de l'angle ϕ. La conique sera une hyperbole, une parabole ou une ellipse suivant que la circonférence coupe, touche ou ne coupe pas la droite Δ.

11326. (E. H. Moore.)—Solve for $x_1 : x_2 : x_3$ the continued equality

$$(x_2+x_3)(x_2-x_3)^2 = (x_3+x_1)(x_3-x_1)^2 = (x_1+x_2)(x_1-x_2)^2.$$

Solution by H. J. Woodall, A.R.C.S.

Putting $x_2/x_1 = u$, $x_3/x_1 = v$, we have

$$(u+v)(u-v)^2 = (v+1)(v-1)^2 = (1+u)(1-u)^2;$$

therefore $\quad (u^2-v^2)(u-v) = (v^2-1)(v-1) = (u^2-1)(u-1)$;

$$\therefore \quad \frac{u^2-v^2}{v^2-1} = \frac{v-1}{u-v}; \text{ add unity to each; } \therefore \frac{u^2-1}{v^2-1} = \frac{u-1}{u-v} = \frac{v-1}{u-1};$$

$$\therefore \quad (u-1)^2 = (v-1)(u-v);$$

$$\frac{u^2-v^2}{u^2-1} = \frac{u-1}{u-v}; \text{ subtract unity; } \therefore \frac{1-v^2}{u^2-1} = \frac{v-1}{u-v} = \frac{1-u}{v-1};$$

$$\therefore \quad (v-1)^2 = (u-1)(v-u); \quad \therefore (u-1)^3 + (v-1)^3 = 0.$$

Solutions are $\quad u-1+v-1 = 0$; or $u+v = 2$;

and $\quad (u-1)^2 - (u-1)(v-1) + (v-1)^2 = 0$ (imaginary).

Substitute $v = 2-u$; $\therefore$ $2(2u-2)^2 = (3-u)(u-1)^2 = (1+u)(1-u)^2$;

$$\therefore u = 1 \overset{\text{bis}}{= v} \text{ or } 8 = (3-u) = (1+u), \text{ impossible.}$$

$$\therefore x_1 = x_2 = x_3.$$

13520. (Professor Neuberg.)—On donne le système d'équations—

$$\sin^2 x - \sin^2(y-z) = a, \quad \sin^2 y - \sin^2(z-x) = b, \quad \sin^2 z - \sin^2(x-y) = c,$$

calculer $\sin(x+y+z)$.

Solution by the Rev. Robert Harley, M.A., F.R.S.; *and* W. E. Jeffares, B.A.

Since $\quad \sin^2 x - \sin^2(y-z) = \sin(x+y-z)\sin(x-y+z)$,

the given equations may be written thus:—

$$\sin(s-2z)\sin(s-2y) = a, \quad \sin(s-2x)\sin(s-2z) = b,$$

$$\sin(s-2y)\sin(s-2x) = c, \quad \text{where} \quad s = x+y+z,$$

so that we have

$$\sin(s-2x)\sin(s-2y)\sin(s-2z) = (abc)^{\frac{1}{2}},$$

and therefore

$$\sin(s-2x) = (bc/a)^{\frac{1}{2}}, \quad \text{or} \quad s-2x = \sin^{-1}(bc/a)^{\frac{1}{2}},$$

$$\sin(s-2y) = (ca/b)^{\frac{1}{2}}, \quad \text{or} \quad s-2y = \sin^{-1}(ca/b)^{\frac{1}{2}},$$

$$\sin(s-2z) = (ab/c)^{\frac{1}{2}}, \quad \text{or} \quad s-2z = \sin^{-1}(ab/c)^{\frac{1}{2}},$$

whence, by addition,

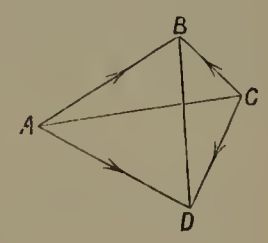
$$x+y+z = \sin^{-1}(bc/a)^{\frac{1}{2}} + \sin^{-1}(ca/b)^{\frac{1}{2}} + \sin^{-1}(ab/c)^{\frac{1}{2}},$$

and $\sin(x+y+z)$, or $\sin\left\{\sin^{-1}(bc/a)^{\frac{1}{2}} + \sin^{-1}(ca/b)^{\frac{1}{2}} + \sin^{-1}(ab/c)^{\frac{1}{2}}\right\}$

$$= \left\{(1/a)(b-ca)(c-ab)\right\}^{\frac{1}{2}} + \left\{(1/b)(c-ab)(a-bc)\right\}^{\frac{1}{2}} + \left\{(1/c)(a-bc)(b-ca)\right\}^{\frac{1}{2}} - (abc)^{\frac{1}{2}}.$$

13454. (W. J. Dobbs, M.A.)—Four coplanar forces in equilibrium act in the lines AB, BC, CD, DA, and their magnitudes are proportional to CD, DA, AB, BC, respectively. Prove that *either* the points A, B, C, D are concyclic, *or* each is the orthocentre of the triangle formed by the joins of the other three.

Solution by Lionel E. Reay, B.A.; *and* Rev. J. Cullen, B.A.



Case I.—When there is no re-entrant angle.

Resultant of forces along AB and AD is in direction AC.

$\therefore$ $CD/\sin CAD = BC/\sin BAC$;

but $\quad CD/\sin CAD = AC/\sin ADC$,

and $\quad BC/\sin BAC = AC/\sin ABC$;

$\therefore$ $\sin ABC = \sin ADC$.

$\therefore$ $ABC = ADC$, or $= \pi - ADC$ ... (1,2).

Similarly, $\quad BCD = BAD$, or $= \pi - BAD$ ..... (3, 4).

(*a*) 1 with 3.—This is a possible condition of equilibrium for a *parallelogram.*

(*b*) 1 with 4.—This gives B and D right angles, and figure is *concyclic.*

(*c*) 2 with 4.—This gives figure *concyclic.*

[The rest in Volume.]

13535. (G. Hale Puckle, M.A.)—Find the real directrices, with the corresponding foci and eccentricity, of the conic

$$4x^2 + 24xy + 11y^2 - 4x - 2y - 9 = 0;$$

also find the axes on which (1) the real, and (2) the imaginary, foci lie.

Solution by the Proposer.

By the following method the results are obtained *without reduction.*

Let the general equation $\phi(xy) = 0$ be identified, term by term, with

$$(\alpha x + \beta y + \gamma)^2 - \rho^2\left\{(x-x')^2 + (y-y')^2\right\} = 0;$$

then, by the resulting equations, ρ^2 is found from

$$(\rho^2+a)(\rho^2+b) = h^2; \quad \text{and} \quad \alpha^2 = \rho^2+a, \quad \beta^2 = \rho^2+b.$$

Let $\phi^2 = \rho^2+a+b$; then $\phi^2\gamma = g\alpha + f\beta + \Delta^{\frac{1}{2}}$.

The equation to the directrix may be written

$$\phi^2\alpha x + \phi^2\beta y + \phi^2\gamma = 0 \quad \text{.....} \quad (1),$$

and $\quad \phi^2\alpha = (a+\beta^2)\alpha = \alpha a + \beta h, \quad \phi^2\beta = (\alpha^2+b)\beta = \alpha h + \beta b$;

hence (1) becomes $\quad \alpha(ax+hy+g) + \beta(hx+by+f) + \Delta^{\frac{1}{2}} = 0.$

If we write $\phi(xy) = 0$, so that Δ shall be positive, and take the algebraically greater value of ρ^2, this will represent the real directrices, the signs of α, β being determined by $\alpha\beta = h$. The eccentricity is found from $e^2\rho^2 = \alpha^2 + \beta^2$. The foci are found from the equations

$$\rho^2(ax'+hy'+g) + \alpha\Delta^{\frac{1}{2}} = 0, \quad \rho^2(hx'+by'+f) + \beta\Delta^{\frac{1}{2}} = 0;$$

and the axes of real and imaginary foci are

$$\beta(ax+hy+g) - \alpha(hx+by+f) = 0, \quad \alpha(ax+hy+g) + \beta(hx+by+f) = 0.$$

By the above method the given equation may be written

$$(x+1)^2 + (y+1)^2 = \tfrac{1}{5}(3x+4y+1)^2, \quad \text{or} \quad (x-\tfrac{4}{5})^2 + (y-\tfrac{7}{5})^2 = \tfrac{1}{5}(3x+4y-2)^2.$$

The axes of real and imaginary foci are

$$4x-3y+1=0, \quad 6x+8y-1=0.$$

See PUCKLE'S *Conic Sections*, Art. 294, Edition 1896.

[The rest in Volume.]

13572. (G. HALE PUCKLE, M.A.).—If $\phi(xy)=0$ and $\alpha x+\beta y+\gamma=0$ represent a conic and a directrix, and (x', y') is the corresponding focus, show that $\rho^2(\alpha x'+\beta y'+\gamma)+\Delta^{\frac{1}{2}}=0$, and $\rho^4\phi(x'y')=\Delta$,

where $2\rho^2=R-a-b$, $R^2=(a-b)^2+4h^2$.

Solutions (1) *by the* PROPOSER, (2) Professor SANJÁNA, M.A.

(1) The first equation, and also $\rho^2(gx'+fy'+c)+\gamma\Delta^{\frac{1}{2}}=0$, are obtained in the same manner as the equations for finding the foci in Quest. 13535 (see above); then

$$\phi(x'y')=(ax'+hy'+g)x'+(hx'+by'+f)y'+gx'+fy'+c$$
$$=-\left\{(\alpha\Delta^{\frac{1}{2}}x'+\beta\Delta^{\frac{1}{2}}y'+\gamma\Delta^{\frac{1}{2}})/\rho^2\right\}=-(\Delta^{\frac{1}{2}}/\rho^2)(\alpha x'+\beta y'+\gamma)$$
$$=\Delta/\rho^4.$$

[The rest in Volume.]

13519. (Professor CROFTON, F.R.S.)—Prove that—

$$f(d/dx+d/dy)e^{xy}=e^{xy}\exp.(d/ds)^2f(s), \quad \text{where} \quad s=x+y.$$

Solutions (1) *by* Rev. S. SIRCOM, M.A.; (2) *by the* PROPOSER.

(1) Let $v=xy$; then $d/dx=ds/dx\,.\,d/ds+dv/dx\,.\,d/dv$;

so for d/dy; then $(d/dx+d/dy)e^{xy}=e^v(x+y)=e^vs$;

$$(d/dx+d/dy)^2e^{xy}=e^v(s+2d/ds)s=e^v\exp.(d/ds)^2s^2.$$

Then, if $(d/dx+d/dy)^{n-1}e^{xy}=e^{xy}\exp.(d/ds)^2s^{n-1}$

$$(d/dx+d/dy)^ne^{xy}=e^{xy}(s+2d/ds)\exp.(d/ds)^2s^{n-1};$$

but $[x+f'(D)]e^{f(D)}\phi(x)=e^{f(D)}x\phi(x)$,

whence $(d/dx+d/dy)^ne^{xy}=e^{xy}\exp.(d/ds)^2s^n$,

and generally $f(d/dx+d/dy)e^{xy}=e^{xy}\exp.(d/ds)^2f(s)$.

[The rest in Volume.]

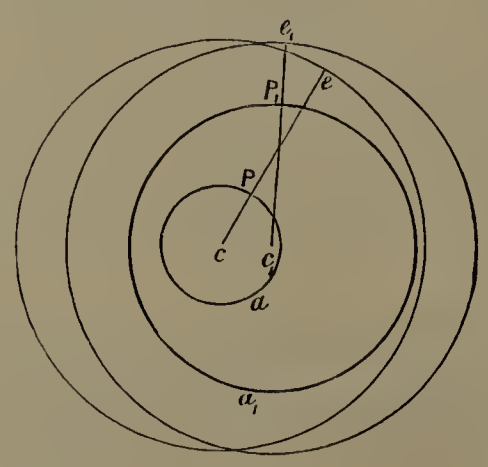
13534. (J. WOODCOTE WEST.)—Given two circles, their radii, and a point on the circumference of one, determine, geometrically, the nearest point on the circumference of the other through which a circle, passing through the given point and orthogonal to both the given circles, must pass, employing not more than five lines in your construction. Also show that the radius of the least circle orthogonal to both the given circles $=\sqrt{\{-S(S-R_1)(S-R)(S-d)\}}\,2/d$, where d is the distance between their centres, and S half the sum of R, R_1, d.

Solution by the PROPOSER.

Let α, α_1 be the given circles, having centres e, e_1, and P the given point. With radius $R+R_1$, describe concentric circles, and draw cPe. With centre e and radius d, obtain the intersection e_1, and draw e_1c_1 intersecting α_1 in P_1. P_1 is the required point by similar triangles. The distance of the radical axis from the nearest centre

$$=\frac{R_1^2-R^2-d^2}{2d};$$

hence the equation.



13563. (H. W. CURJEL, M.A.)—AFDB, AGEC are two intersecting straight lines; and FG, DE, BC are perpendicular to AC; and EF, DC to AB. Prove by the First Book of Euclid that DG is parallel to BE.

Solution by F. H. PEACHELL, B.A.; JOHN SADLER; *and others.*

Now, because CB is parallel to GF; therefore

$\Delta GCF = GBF$.

To each add ΔAGF;

$\therefore$ $\Delta AFC = AGB$,

that is

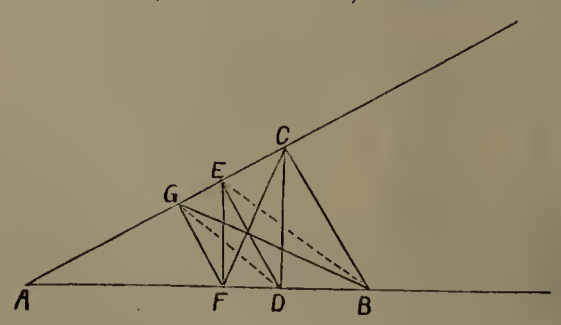
$\Delta AED = AGB$.

[For $\Delta EFD = EFC$.]

$\therefore$ $\Delta AGD + GED$

$= \Delta AGD + GDB$;

therefore $\Delta GED = GDB$; and therefore GD is parallel to EB.



13562. (R. CHARTRES.)—If ABC be a triangle, and D a point in BC, and DA, DB, DC be denoted by x, y, z respectively, then

(1) $by+cz>ax$; (2) $b^2y+c^2z>ax^2$;

(3) by^2+cz^2 is a minimum when A is bisected, when

(4) $b^2y+c^2z=abc$.

Solution by the PROPOSER, L. E. REAY, B.A.; *and* Professor SANJÁNA, M.A.

If ABD_1C be a non-cyclical quadrilateral,

$$b\,.\,BD_1+c\,.\,CD_1>a\,.\,AD_1.$$

(1) Then, if D_1 coincide with D,

$$by+cz>ax,$$

since $\cos ADC+\cos ADB=0$.

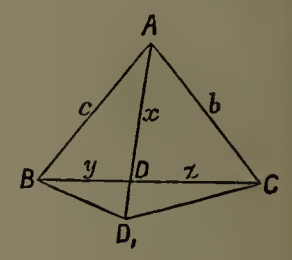
(2) Therefore $b^2y+c^2z=a(x^2+yz)$.

(3) Differentiating $by^2+c(a-y)^2$

for a minimum, $y=ac/(b+c)$;

therefore A is bisected.

(4) Then (2) becomes $b^2y+c^2z=abc$ (Euc. VI. 3).

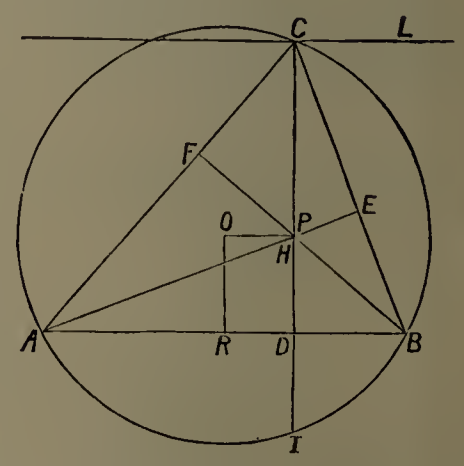


13255. (Professor SANJÁNA, M.A.)—Given the position of the orthocentre of a triangle, and the lengths of its base and altitude; show how to construct it.

Solution by MORGAN BRIERLEY.

Let P, between the two indefinite parallel lines AB, CL, be the given position of the orthocentre perpendicular to AB; through P draw CD meeting AB in D equal to the given altitude. From D on DC set off $DH=\frac{1}{2}PC$, and draw $DI=DH$ in a line with DC. From D mark off AD, DB, so that $AD\,.\,DB=CD\,.\,DI$, and $AD+DB=AB=$ the given length of the base; then will ABC be the triangle constructed as required.

From H, the middle point of CI, HO, parallel to AB, will pass through the circumcentre O; and OR, perpendicular to AB, and therefore equal to HD, it is well known, is equal to $\frac{1}{2}PC$; hence is seen the accuracy of the construction.



[The Solution to Question 13279 is on similar lines; see Vol. LXVI., p. 105.]

13475. (G. E. CRAWFORD, M.A.)—Prove that the sum of the homogeneous products of the rth degree of the five quantities α, β, γ, δ, ϵ is

$$\frac{\Sigma\alpha^{r+4}(\beta-\delta)(\gamma-\epsilon)(\gamma-\beta)(\delta-\gamma)(\epsilon-\beta)(\epsilon-\delta)}{(\alpha-\gamma)(\alpha-\epsilon)(\beta-\delta)(\beta-\alpha)(\gamma-\epsilon)(\gamma-\beta)(\delta-\alpha)(\delta-\gamma)(\epsilon-\beta)(\epsilon-\delta)},$$

and that the number of them is $5\,.\,6\,.\,7\ldots4+r/r!$.

Solution by Rev. T. WIGGINS, B.A.; Rev. J. CULLEN, B.A.; *and* H. W. CURJEL, M.A.

(1) S_r is sum of homogeneous products of rth degree when

$$\frac{1}{(1-\alpha x)(1-\beta x)(1-\gamma x)(1-\delta x)(1-\epsilon x)}=1+S_1x+S_2x^2+\ldots+S_rx^r+\ldots$$

Assume $1/\{(1-\alpha x)(1-\beta x)(1-\gamma x)(1-\delta x)(1-\epsilon x)\}$

$$=A/(1-\alpha x)+B/(1-\beta x)+C/(1-\gamma x)+D/(1-\delta x)+E/(1-\epsilon x).$$

Then, by partial fractions, $A=\alpha^4/\{(\alpha-\beta)(\alpha-\gamma)(\alpha-\delta)(\alpha-\epsilon)\}$,

with similar values for B, C, D, and E. [The rest in Volume.]

13546. (R. F. DAVIS, M.A.)—Prove that the difference between the cubes of two consecutive positive integers terminates in one of the digits 1, 7, 9.

Solution by Rev. J. CULLEN, B.A.; the PROPOSER; *and others.*

If m and $m+1$ are the integers, $(m+1)^3-m^3=3m(m+1)+1=$ difference. Now, since the digit in which the product of any two consecutive integers between 0 and 10 terminates is 0, 2, or 6, it follows that $3m(m+1)$ terminates in 0, 6, or 8; therefore difference in 1, 7, or 9.

13541. (CHARLES MITCHELL.)—The base of a triangle is 2 inches in length, the difference between the angles adjacent to the base is 40°. Find, geometrically, the locus of the vertex of the triangle. N.B.—A locus found by trial is not sufficient.

Solution by Professor A. DROZ-FARNY, and L. E. REAY, B.A.

Soit BC la base fixe du triangle ABC; la différence des angles à la base étant constante, les faisceaux décrits par les côtés BA et CA sont égaux et de sens de rotation contraire; il en résulte d'après un théorème

bien connu (Voir CASEY, *Analytical Geometry*, second edition, p. 289) que le lieu des sommets est une hyperbole équilatère, de diamètre BC et dont les asymptotes ont la direction des bissectrices de l'angle A.

13499. (Professor W. BOOTH.)—If α, β, γ, δ be the roots of

$$ax^4+4bx^3+6cx^2+4dx+e=0,$$

express $4(\beta\gamma-\alpha\delta)\left[(a+\delta)\beta\gamma-\alpha\delta(\beta+\gamma)\right]$
$$-(\beta+\gamma-\alpha-\delta)^2\left[(a+\delta)\beta\gamma+\alpha\delta(\beta+\gamma)\right]$$
in terms of the coefficients.

Solution by L. E. REAY, B.A.; Rev. R. HARLEY, M.A., F.R.S.; *and others.*

$$4(\beta\gamma-\alpha\delta)\left[(\alpha+\delta)\beta\gamma-\alpha\delta(\beta+\gamma)\right]-(\beta+\gamma-\alpha-\delta)^2\left[(\alpha+\delta)\beta\gamma+\alpha\delta(\beta+\gamma)\right]$$
$$=\beta\gamma(\alpha+\delta)(2\Sigma\alpha\beta-\Sigma\alpha^2)-8\alpha\beta\gamma\delta(\alpha+\delta)$$
$$+\alpha\delta(\beta+\gamma)(2\Sigma\beta\gamma-\Sigma\alpha^2)-8\alpha\beta\gamma\delta(\beta+\gamma)$$
$$=(2\Sigma\alpha\beta-\Sigma\alpha^2)\Sigma\beta\gamma\delta-8\alpha\beta\gamma\delta\Sigma\alpha=\left[4\Sigma\alpha\beta-(\Sigma\alpha)^2\right]\Sigma\beta\gamma\delta-8\alpha\beta\gamma\delta\Sigma\alpha$$
$$=\left(\frac{24c}{a}-\frac{16b^2}{a^2}\right)\left(-\frac{4d}{a}\right)+\frac{8e}{a}\frac{4b}{a}=\frac{32}{a^3}(2b^2d-3acd+abe).$$

4653. (MATTHEW COLLINS, LL.B.)—Let AC be the side of a regular pentagon inscribed in a circle whose centre is D; on AO draw an equilateral triangle AOB; bisect the arc BC in D, and the arc AD in E; then prove that the chord AE will be very nearly equal to the side of a regular undecagon inscribed in the circle.

Solution by H. W. CURJEL, M.A.

Let c = length of circumference of circle.

Arc AC $=\frac{1}{5}c$, arc AB $=\frac{1}{6}c$; $\therefore$ arc AD $=\frac{1}{2}$(arc AC + arc AB) $=\frac{11}{60}c$;

therefore arc AE $=\frac{11}{120}c=\frac{1}{11}c$ very nearly;

therefore chord AE is very nearly equal to a side of a regular undecagon inscribed in the circle.

QUESTIONS FOR SOLUTION.

13604. (The late Professor SYLVESTER, F.R.S. Feb. 16, 1897.)—In the triads of consecutive numbers 48, 49, 50; 98, 99, 100; 124, 125, 126, each number contains a square factor. Find how many such triads there are below the limit 1,000.

13605. (The late Professor WOLSTENHOLME, M.A., Sc.D.)—*Tetrahedron, of course.*—The equations I have been looking for for years—

$$\left[(b\pm y)^2-(c\pm z)^2\right]\sin^2\tfrac{1}{2}(A\pm X)+\left[(c\pm z)^2-(a\pm x)^2\right]\sin^2\tfrac{1}{2}(B\pm Y)$$
$$+\left[(a\pm x)^2-(b\pm y)^2\right]\sin^2\tfrac{1}{2}(C\pm Z)\equiv 0;$$

the ambiguities being always of the same sign in any term $(a\pm x)^2$ as in the corresponding term $\sin^2\frac{1}{2}(A\pm X)$. The relations between the lengths of edges and dihedral angles are

$$\frac{(a+x)^2}{k+\sin^2\frac{1}{2}(A+X)}=\frac{(b+y)^2}{k+\sin^2\frac{1}{2}(B+Y)}=\frac{(c+z)^2}{k+\sin^2\frac{1}{2}(C+Z)}$$
$$=\frac{(a-x)^2}{k+\sin^2\frac{1}{2}(A-X)}=\frac{(b-y)^2}{k+\sin^2\frac{1}{2}(B-Y)}=\frac{(c-z)^2}{k+\sin^2\frac{1}{2}(C-Z)}$$
$$=\frac{16\Delta_0\Delta_1\Delta_2\Delta_3}{9V^2};$$

where Δ_0, Δ_1, Δ_2, Δ_3 are the areas of the faces, and V the volume of the tetrahedron; k vanishing when $\Delta_0+\Delta_1=\Delta_2+\Delta_3$, or $\Delta_0+\Delta_2=\Delta_3+\Delta_1$, or $\Delta_0+\Delta_3=\Delta_1+\Delta_2$. Can any one supply the exact value of k? I cannot at present.

[I think I have now accomplished all I can in the theory of the tetrahedron, and propose to pretermit the study for some time. There is, however, still a great deal to be done in the goniometry of the tetrahedron, and I expect sometime the theory of elliptic functions will start from it. I am too old and broken to have any hope of accomplishing this myself, or I would not divulge the idea.—J. W. Oct. 22, 1889.]

13606. (Professor NEUBERG.) — On considère les paraboles qui touchent une droite donnée a en un point donné A et dont la tangente au sommet passe par un point donné B. Trouver l'enveloppe de l'axe.

13607. (Professor MORLEY.)—Prove that the greatest length of a beam of square section b which can exist in a cube of side a is approximately $a\sqrt{3}-\sqrt{2}(2+\sqrt{3})b/3-(2-\sqrt{3})b^2/9a$.

13608. (Professor H. LANGHORNE ORCHARD, M.A., B.Sc.)—In a circle of radius a is inscribed the maximum quadrilateral; in this quadrilateral is inscribed a circle, and in this circle the maximum quadrilateral; then in this quadrilateral another circle, and so on, *ad infinitum.* Find the ratio of the sum of the areas of all the quadrilaterals to the sum of the areas of all the circles.

13609. (Professor SANJÁNA.)—Prove that

$$\int_0^\infty \sin(x^n)\,dx=b\Gamma(1+1/n),$$

where b is the real coefficient of the imaginary part of $(-1)^{\frac{1}{2}n}$; and hence find the value of the integral to four places of decimals when n is 2 or 3.

13610. (EDITOR.)—A square is inscribed in a triangle, a second square in the triangle whose base is the side of the first square and vertex that of the given triangle, and so on *ad inf.* Find the sum of the areas of all these squares.

13611. (D. BIDDLE.)—Prove that the r final digits of 3^{4n} are similarly placed in the sum of the first r terms of the following series:—

$$1+10n\left\{2(1.1+1.3)\right\}+10^2\frac{n(n-1)}{1.2}\left\{2^2(1.1+2.3+1.9)\right\}$$
$$+10^3\frac{n(n-1)(n-2)}{1.2.3}\left\{2^3(1.1+3.3+3.9+1.7)\right\}\ \ldots\ldots\ldots\ldots (1, 2, 3, 4),$$
$$+10^4\frac{n(n-1)(n-2)(n-3)}{4!}\left\{2^4\left[1.1+4.3+6.9+4.7+\frac{(n+1)(1.1)}{n-3}\right]\right\}\ \ldots\ldots(5),$$
$$+10^5\frac{n(n-1)\ldots(n-4)}{5!}\left\{2^5\left[1.1+5.3+10.9+10.7+\frac{(n+1)(5.1+1.3)}{n-4}\right]\right\}\ \ldots\ldots(6),$$
$$+10^6\frac{n(n-1)\ldots(n-5)}{6!}\left\{2^6\left[1.1+6.3+15.9+20.7+\frac{(n+1)(15.1+6.3+1.9)}{n-5}\right]\right\}\ \ldots\ldots(7),$$
$$+10^7\frac{n(n-1)\ldots(n-6)}{7!}\left\{2^7\left[1.1+7.3+21.9+35.7+\frac{(n+1)(35.1+21.3+7.9+1.1)}{n-6}\right]\right\}\ \ldots\ldots(8$$
$$+10^8\frac{n(n-1)\ldots(n-7)}{8!}\left\{2^8\left[1.1+8.3+28.9+56.7+\frac{(n+1)(70.1+56.3+28.9+8.7)}{n-7}+\frac{(n+1)(n+2)(1.1)}{(n-6)(n-7)}\right]\right\}\ \ldots\ldots(9).$$
$$+\&c.$$

13612. (Rev. T. C. SIMMONS, M.A.)—An archer, in perfectly calm weather, aiming 1,000 times at the centre of a circular target 40 inches in diameter, hits the target 500 times. If under the same conditions he aims 1,000 times at the central line of a very long rectangular target 40 inches in breadth, how many times may he expect to hit the target?

13613. (Rev. W. ALLEN WHITWORTH, M.A.) —Cards are drawn one by one from a pack until at least one card of every suit has been drawn. On an average $7\frac{419}{630}$ cards must be drawn. (*Choice and Chance*, Ex. 504.) Show that, if the pack consists of mn cards, viz., m suits with n cards in each suit, the average number of cards to be drawn is

$$(mn+1)\left\{1-1\div\left(1+\frac{1}{n}\right)\left(1+\frac{1}{2n}\right)\left(1+\frac{1}{3n}\right)\ldots\left(1+\frac{1}{mn}\right)\right\}.$$

13614. (C. L. DODGSON, M.A.)—ZELLER's formula for the day of the week corresponding to any given date, viz., the pth day of the qth month of the year N, Old Style, is

$$p+2q+\{3(q+1)/5\}+N+\{N/4\}-\{N/100\}+\{N/400\}+2,$$

where $\{N/4\}$ means the integral number of 4's contained in N. Taking a hint from this, I have succeeded in evolving an *algebraical formula for the number of days in the qth month.* I take a certain algebraical function of q, and divide it by 5, and call the remainder r. Then a certain algebraical function of r will give the number of days in the qth month. This works correctly for March and all following months; and even for January, by calling it the 13th month of the preceding year: but I cannot manage *February.*

13615. (H. MACCOLL, B.A.)—Out of a collection of 20 mixed statements consisting of 7 *certainties*, 11 *impossibilities*, and 2 *variables* whose chances of being true are respectively 1/3 and 5/6, a statement A is taken at random; and out of a similar collection of 20 statements mixed in the same proportions a statement B is taken at random. Show (1) that the chance of the alternative A′ + B being true (*i.e.*, that either A is false or B true) is ·7584027; and (2) that the chance of the implication A : B being true (*i.e.*, that the affirmation of A coupled with the denial of B constitutes or contains an impossibility) lies between ·7075 and ·7175.

Note.—Question 13587, in the last number of the *Educational Times*, contains a misprint. The numerator 950 of the last fraction should be 650.

13616. (JOHN SADLER.)—Find the locus of the centres of all circles which touch two fixed (unequal) circles (which already do not touch one another).

13617. (H. J. WOODALL, A.R.C.S.)—Mr. W. W. ROUSE BALL *Messenger of Mathematics*, XXI., pp. 34–40) quotes EULER as saying that factors of $2^p\pm1$ are of form $np+1$. *But, if p is a given number, we can define n much more closely, and* EULER *showed that the prime factors (if any) of* $2^{31}-1$ *were necessarily primes of the form* $248n+1$ or $248n+63$. Required a proof of the latter assertion.

13618. (Robert W. D. Christie.)—Where P is any odd prime whatsoever and Q an integral function of that prime, prove

$$X^2-5Y^2=PQ+1,$$

and find general integral values for X and Y.

13619. (W. E. Jeffares, B.A.)—Prove that the circle described on the distance between the double points of the involution determined on any line by the sides of a quadrilateral inscribed in a circle cuts this circle orthogonally, and show that the circle on the third diagonal cuts orthogonally the same circle.

13620. (R. Knowles, B.A.)—A triangle ABC is inscribed in a conic; prove that (1) the three lines joining the poles of BC, AC, AB to A, B, C, respectively, meet in the same point O; (2) the three points of intersection of BC, AC, AB with the tangents at A, B, C, respectively, are on the polar of O.

13621. (Morgan Brierley.)—Given the circum-circle and the ratio of the sides including the vertical angle, to construct the triangle a maximum.

13622. (R. F. Davis, M.A.)—Prove that the value of the quasi-continued fraction $\dfrac{12}{\sqrt{10}+}\,\dfrac{12}{\sqrt{10}+}\,\dfrac{12}{\sqrt{10}+}\ldots$ *ad inf.*, is 3·64575134.

13623. (R. Chartres.)—Two random points P, Q are taken within the triangle ABC; find the mean value of the triangle APQ.

13624. (J. Woodcote West.)—A railroad cutting is to pass straight through the centre of a rise which is in the form of a spherical segment. Required the volume of the excavation when the bed of the cutting is perfectly level.

13625. (Salutation.)—ABC is the triangular and equilateral floor of a room having rectangular walls; the two walls which meet in A (and which we will call AB, AC) consist of plane mirrors; the wall BC has on it two points the perpendiculars from which to the floor in D, E divide the width of this wall into three equal parts; at the point above D is a source of light (shielded so as to cast direct rays on the mirror AC only); at the other point (above E and nearest to AB) is the eye of the observer, at a lower level than the light; the mirror AC is made to open outwards rotating about a vertical axis at A. The apparent path of the reflected image behind AB is a circle of centre A′ and radius AD, and the circle is the same even if AB also rotate about A. Trace however, the apparent path of the image when AB rotates about B, whilst AC rotates about A, the two beginning together, but AC's angular velocity being n times that of AB.

13626. (Rev. J. Cullen, B.A.)—Show that

$$\left(4\int r\,dr\right)^n e^{-2rs}=s\left(\frac{d}{s\,ds}\right)^n e^{-2rs}/s.$$

13627. (W. J. Dobbs, M.A.)—The straight line AB is produced to P, so that rect. AP . PB = sq. on AB. In the straight line which bisects AB in C at right angles a point Q is taken such that BQ = AP. Prove that QB bisects the angle CQP.

13628. (J. C. Wasson.)—When a variable point moves round the circumcircle of any triangle, the motion of the Simson's line with respect to that point is identical with that of a chord of a circle one extremity of which passes over twice the arc described by the other, the arcs being measured in opposite directions.

13629. (R. F. Muirhead.)—Prove that the expression

$$\alpha(\alpha-1)(\alpha-2)\ldots(\alpha-r+1)+r\,.\,\alpha(\alpha-1)\ldots(\alpha-r+2)\beta$$
$$+\frac{r(r-1)}{1.2}\alpha(\alpha-1)\ldots(\alpha-r+3)\beta(\beta-1)+\ldots$$
$$+\beta(\beta-1)(\beta-2)\ldots(\beta-r+1)$$

is unaltered in value when we change α into $\alpha+1$ and β into $\beta-1$.

13630. (Professor Crofton, F.R.S.)—Show that

$$1-4+4^2-4^3+\ldots+4^{2r}$$

is the sum of two squares; and give their values, according as r is odd or even.

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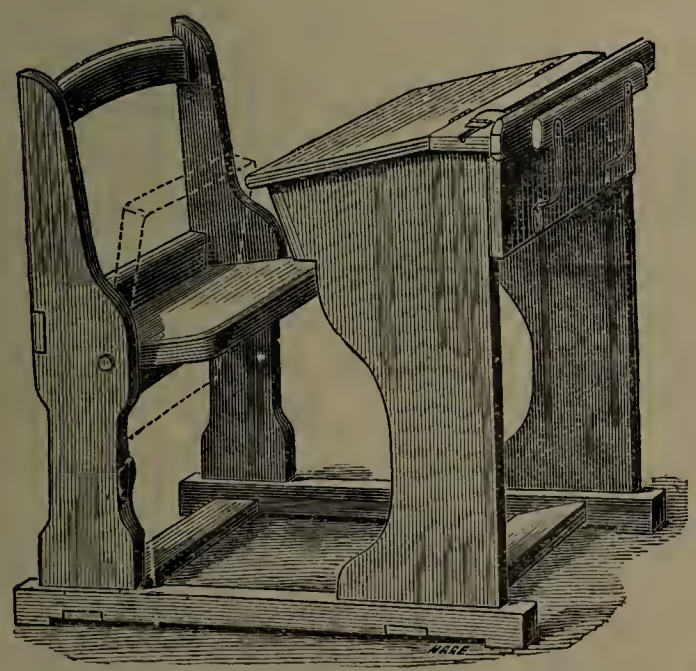

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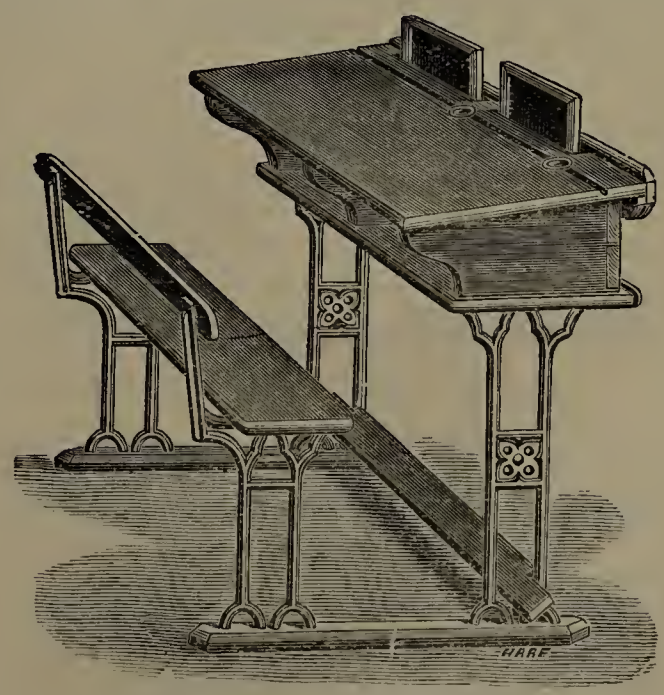

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Intellectual Spiced Meats.

In one of Dr. Arnold's letters occurs the following pregnant passage: "Childishness in boys, even of good abilities, seems to me to be a growing fault, and I do not know to what to ascribe it, except to the great number of exciting books of amusement, like 'Pickwick' and 'Nickleby,' *Bentley's Magazine*, &c., &c. These completely satisfy all the intellectual appetite of a boy, which is rarely very voracious, and leave him totally palled, not only for his regular work, which I could well excuse in comparison, but for good literature of all sorts, even for history and for poetry." This tendency, we will not say to childishness, but to feed the intellectual appetite on unworthy food, has increased in a very marked way since Dr. Arnold observed it nearly sixty years ago; and it is still increasing. The schoolmaster cannot ignore, nor can he fail to be affected by, the prevailing tendencies of the times in which he lives. Cheap printing, together with a general rise in wealth, resulting in more pocket-money, has brought within the reach of our boys an enormous quantity of publications, some good and some bad. The schoolboy undoubtedly reads much more than he used to do. How far is this good? There are several points to be considered. But first it must be freely admitted that, were Dr. Arnold writing now, he would have to put "The Sorrows of Satan" and *The Strand Magazine* in the place of "Pickwick" and *Bentley*. Assuredly our ephemeral literature has grown more sensational, more exciting. The boy who reads Milton and Macaulay is, probably, harder to find than he was fifty years ago.

Schools reflect the life of the nation. The life of the Collet family at Little Gidding, which Mr. Shorthouse so beautifully describes in "John Inglesant," impresses us much as a delicate work of art might affect us: but we make no effort to approach more nearly to such a life. Publicity is our watchword now. And publicity has affected our schools. The urchin of twelve gains a scholarship, and is spoken of in the local press in terms which make him feel that the world is at his feet. Public examinations, public results, public stage-performances, public games with reporters present—these, and many similar circumstances, have modified the position of the teacher. This increasing publicity of life inevitably results in a greater desire for sensationalism in all its forms. We live more quickly, and want more highly spiced food to satisfy our intellectual cravings. Life is too short for "Paradise Lost"; read instead the introduction to an edition of English poets, or a magazine article. Macaulay is out of date: take history from the *Nineteenth Century*. And lower down the scale the same tendency is at work. Even the *Boy's Own Paper* is superseded amongst "train-boys" by *Comic Cuts* and *Snap Shots*.

Luxury, too, is increasing. Once it was thought healthy for a boy to "rough it" at school; now most careful inquiries are made as to dormitory and table. Formerly, the harder a school lesson the greater the discipline, it was considered, in forcing the boy to master it; now we make our lessons interesting and easy. Attention may perhaps be a quality of mind that can be acquired; and some there are who think the schoolmaster's duty is to train his boys to exercise attention. But the prevailing view is that, if boys are inattentive, the fault lies with the teacher, who does not make his lessons interesting enough.

It is not our intention to endorse Dr. Arnold's complaint, nor even to cry out against the reading of literature—if it may be so named—of the tit-bit type. It would rather seem that certain things must be accepted—and amongst them the fact that in the present phase of civilization we demand and require the stimulus of sensationalism in writing, just as we require nowadays more elaborate food than satisfied our ancestors. One of our contemporaries pointed out a little while ago that the luxurious living of which we hear so much in the great public schools finds its counterpart even in the Board school of a remote village. It seems to be true that the more we develop our mental powers the weaker the physical nature becomes: and this, of course, includes the digestion. To some extent it seems true that the quick way in which we live now, intellectually speaking, induces at times a mental lassitude, which is eased by the effortless perusal of short exciting or amusing paragraphs.

We do not think there is any ground for pessimism. *Tit-Bits* may not stand for literature, but at all events there is one point to the good, that printed matter of this kind is read by thousands where, in Arnold's day, but one was found to read Macaulay. All reading gives some sort of culture: the best reading the best culture. To sum up: our opinion is that schoolmasters have no need to feel particularly uneasy at the prevalence of cheap and not very exalted literature; still less need they fear "childishness" in their pupils. On the contrary, this is a quality to be retained as long as possible. Nor need they fear that a boy's appetite is satisfied by rubbish, and that his taste for better things is lost. Probably, so far as it has any effect, this unworthier literature stimulates his taste for further reading of a better sort.

NOTES.

Miss E. A. S. Dawes, D.Lit. and M.A. of London, who has been elected a member of the Council of the College of Preceptors, is a lady of exceptionally brilliant attainments. After studying at Girton, she passed all the examinations required for the B.A. degree at the two Universities of Cambridge and London, with Honours. Early in 1886 she went to Athens to study colloquial Greek and archæology. During her stay of six months in Greece she visited and studied the most important sites of antiquity in the country, and acquired great fluency in speaking the language. In June, 1887, she passed the examination for the degree of Master of Arts at the London University in Branch I., Classics, and was placed fifth on the list, her sister standing first. In June, 1889, in order to complete her qualification as a candidate for the degree of Doctor of Literature, she passed the examination in Mediæval and Modern French and German, and was placed first on the list. In 1889 Miss Dawes published a work on "The Pronunciation of Greek, with Suggestions for a Reform in Teaching that Language," and in 1890 "Attic Greek Vocabularies" and "Classical Latin Vocabularies." In 1894 Miss Dawes presented to the University of London a work on the "Pronunciation of the Greek Aspirates," as a thesis for the degree of Doctor of Literature, which was accepted. She afterwards passed the examination, and in May, 1895, received the diploma of Doctor of Literature. This is the highest degree in Arts which the University confers, and Miss Dawes is the only woman who has hitherto obtained it.

The Trade-Union Congress are about to bring before the Government some resolutions they have lately passed on the subject of education. They demand that secondary education should be free to all children, and that the cost should be defrayed by people with incomes over £300 a year. A few years ago the Independent Labour Party passed somewhat similar resolutions. It is, of course, the outcome of irresponsibility. Put the men who framed these resolutions into office and they would soon moderate their tone. Still it is a healthy sign when the workers themselves demand more opportunities of education. And yet the clauses of the Compulsory Education Act are, in some outlying places, we are assured, little observed. It would be better if the working man, before he asked for more, showed his complete appreciation of what he has. There are elementary schools open to all, and thousands of scholarships from these to secondary schools. It is just these scholarships, which seem to us so good, that the Trade-Union Congress carps at.

An important change was made in the constitution of the Assistant-Masters' Association, so far as the General Committee is concerned, at their last general meeting. As things were, voting papers were sent through the post, and the most prominent men connected with the most prominent schools were naturally elected. Certain sections of the profession which ought to be represented on the Committee were in this way overlooked. It has now been decided to give the Committee, as elected by these voting papers, power to add to their number by co-optation. We had heard certain rumours that the masters in private schools had felt themselves in the past somewhat badly treated. But now it is understood, and was practically promised by the Chairman, that the Committee would at once co-opt one or two private-school masters at least. We believe the Committee has always felt the grievance, but hitherto it has been impossible to remedy it.

When Robert Lowe announced his new educational method of "payment by results" he congratulated himself that he had hit on a happy phrase, which would appeal to the sound business sense of the ordinary Englishman. But the "results" obtained were found to be so poor in practice that the system has come to an end in England. It is difficult to understand why this system was not removed from Irish education at the same time. Its latest condemnation is found in the report issued by the Commissioners of National Education in Ireland. Curiously enough, the Commissioners themselves do not appear to see this, and they are at pains to state that they do not feel called upon to adopt any of the suggestions made by the inspectors in their reports on the schools.

Some of the "results" for which Ireland is paying so heavily may be gathered from these depressing reports. For example, we hear that no credit is given for such things as cleanliness and order, the health and comfort of the children, the neatness and prettiness of the school-house. According to one of the inspectors,

> Methods of instruction hardly exist in the national schools; their place has been taken by endless cramming. . . . I cannot recall in the course of my experience as inspector a lesson, for instance, in arithmetic, such as might awaken the intelligent interest of a child.

The authoritative text-book on school management recommends teachers to sacrifice theory to practice in the teaching of arithmetic, and it is evident that the advice has been too literally taken. The same mechanical teaching is found with regard to other subjects. The children appear to understand very little of what they read in the difficult and didactic school-books supplied to them. Geography is such a failure that it is proposed that it should be abolished from the schools; very little more can be said of grammar. These are only specimens of what may be found in these melancholy reports, and one cannot doubt the conclusion of the inspector who says that managers, parents, teachers, and inspectors have for some time found out that, whatever the "results" system may have done, it certainly has not been successful in "educating" the pupils.

Mr. J. S. Thornton, who, by his study of the Danish systems of school organization and State aid, has made a valuable addition to our knowledge of contemporary educational methods, contributes to the volume of "Special Reports on Educational Subjects" a careful summary of facts and opinions, together with a couple of comparative maps of Denmark, showing the number of *Folke-skoler* and *Real-skoler*, in 1864 and 1896. Though Mr. Thornton has on several occasions explained in our columns the characteristic features of national education in Denmark, his report to the Education Department contains much new matter, and well deserves the attention of our readers. It is an interesting fact that, whereas the State is always ready to assist a private school which complies with its conditions, the secondary schools in the capital do not as a rule receive assist-

ance, for the very good reason that they are able to hold their own without it. The exceptions are few, amongst them being the high school for girls (*Artium-kursus*) conducted by Fröken Zahle.

The assisted schoolmistress of Copenhagen appears to be a noteworthy lady, and Mr. Thornton describes her as "the Miss Buss of Denmark." In addition to her school of four hundred girls, she conducts a two years' training course, attended by a hundred students, for governesses in families, in which much attention is given to foreign languages; and a three years' course, attended by fifty or sixty students, for teachers in girls' elementary schools, with a normal school of two hundred girls attached to it. In this second seminary no foreign language is taught, and more attention is paid to mathematics. Fröken Zahle also makes herself responsible for a women's *Folkehöjskole*, besides conducting continuation classes and a training school in housekeeping. This implies exceptional energy and ability, and the Fröken fully earns her thousand kroner from the Danish Government.

The schooling of vagrant children is a fruitful source of perplexity to our local authorities. It seems as if a proposition made the other day at the North Wales Poor Law Conference might prove to be a satisfactory way out of the difficulty. After a paper on the subject from Mrs. Keener, of the Holywell Union, resolutions were passed urging that stringent measures should be adopted giving the guardians power over the children of vagrants passing through the wards. As to the expense, it was proposed that this should be borne by the Exchequer, but only after the parents had been "pressed" to contribute to the fund. The Local Government Board is to be prayed to take the necessary steps for enforcing these regulations. But we shall be told that the "liberty of the parent" is again at stake; and one could scarcely hope for a very generous contribution from a vagrant father thus rudely torn from his offspring.

The Women's Industrial Council has published a penny pamphlet giving the results of an inquiry into the technical education of girls in England and other countries. The contrast between this nation and Switzerland, Germany, and France, to name only a few instances, is very much against us. It is satisfactory to note that Miss Barry, organizer of the Women's Trade-Union League, has been nominated as one of the delegates of the London Trades Council on the Technical Education Board of the London County Council. Her trade-union connexion ought to make her a useful member of the Board; whilst, on the other hand, the kind of work which the Board is doing must indirectly effect much for the women's trade-union cause, since no real success can be looked for in that quarter until women become more skilled in the industries in which they are engaged.

A new training college for secondary teachers is to be opened next year by the Ursuline Sisters at Waterford. Some time ago the Sisters, acting with the well-known zeal of that community in all that relates to education, determined to enter one of their number for the certificates of the Cambridge Syndicate; and when she had played her part of pioneer with marked success three others proceeded to follow her example, with the satisfactory result that, at the last examination held by the Syndicate, they obtained the Teachers' Diploma, with a special commendation (we quote the *Freeman's Journal*) from "the authorities of the University Training College." It is under the direction of these ladies that the Waterford College is about to be organized. Here, as in England, the women are taking the lead.

Mr. Goldwin Smith, who is as honest as he is wrong-headed, persists in declaring that there is no room on the American continent for the survival of a British colony. The assertion seems to be foolish to begin with, and it is particularly unreasonable as coming from a former distinguished Oxford professor and a subject of the Queen living in Canada. In the last number of the *North American Review*, Mr. Goldwin Smith considers the question: "Are our [*i.e.*, the United States] school histories Anglophobe?" and, on the whole, he answers: No. But he admits that others are of a contrary opinion.

Mr. Chauncey Depew, who generally knows what he is talking about, predicts that there will some day be a war between the United States and Great Britain, and among the sources of the ill-feeling of Americans towards Great Britain, of which that war is to be the result, he gives a prominent place to the school histories. Mr. Samuel Plimsoll agrees with Mr. Depew in thinking that much ill-feeling towards England has been engendered by these books, and is anxious to counteract their influence. The Governor-General of Canada, in a recent speech, also accused the American school histories of being enemies to international good will.

Mr. Chauncey Depew may "know what he is talking about" and yet be a poor prophet. As for Mr. Goldwin Smith, he does not appeal to us. He would have Canada elect to be a State of the Union, for no better reason than because the Americans want it, whilst the Canadians certainly do not.

SUMMARY.

THE MONTH.

A general meeting of members of the Association of Assistant-Masters in Secondary Schools was held on September 18 in the theatre of King's College, Strand, for the purpose of considering, among other business, a *précis* of the scheme of the Incorporated Association of Headmasters for legislation on the organization of secondary education and the registration of teachers. Mr. J. W. Longsdon (Surrey County Council Schools) occupied the chair, and there were present a large number of assistant-masters in London and provincial secondary schools. The Chairman said they were all agreed that legislation in regard to secondary education was necessary. A great deal of power and money had been put into the hands of certain local authorities, namely, the County Councils, by the Technical Instruction Act, which had been variously interpreted. By some Councils it had been interpreted to refer to purely technological instruction. In face of these conflicting views it was evident that there must be further legislation to guide the local authorities in carrying out the provisions of the Act. The *précis* now before the meeting had been drawn up by the Headmasters' Association, and set out, in an abbreviated form, that which all scholastic associations wished to have embodied in any future Bill dealing with secondary education. They, as an association of experts, had made up their mind on the points included in the *précis* two years ago, or thereabouts. It had to be remembered, however, that the opinion of the average man was generally a few years behind that of the expert, but he believed the time had now arrived when the average politician, and the public generally, were beginning to realize that something must be done.

The Hon. Secretary of the Association (Mr. J. Montgomery, of Parmiter's School, Victoria Park) dealt with the delimitation question. He said that France had solved the difficulty in a way

which, with certain modifications, perhaps, would be satisfactory in England. In France schools which were called higher primary schools had been established, and they continued the education given in ordinary primary schools, answering to our standards. The instruction imparted in these higher primary schools was of an extremely practical and technical character, and extended over two or three years. Referring to the education resolutions passed at the recent Trade Union Congress at Birmingham, he expressed surprise that they had not attracted greater attention. While those resolutions advocated several things with which they would all agree—such as the abolition of the half-time system, the raising of the school age to fifteen, and the better training of teachers—yet the resolutions went on to urge other other measures which it was impossible for them to support. The Headmasters' *précis* was unanimously adopted.

We regret to note the death of Mr. Morgan Brierley, a frequent contributor to our mathematical columns. According to the *Manchester Guardian*, Mr. Brierley, though born in humble circumstances, "had the good fortune at a comparatively early age to acquire a modest competency. Part of his leisure he devoted to a night school, where he gave lessons in grammar, history, and mathematics, freely to all who chose to attend, and through many years he did much in a variety of ways to cultivate the minds of his poorer neighbours. He was a diligent student, and alike in speech and in writing acquired an apt and pithy style, often marked by a touch of native humour. He was a contributor to the Manchester Literary Club, to which in 1876 he presented a paper on 'The Earliest English Mathematicians,' and in the year following another on 'The Mathematicians of Lancashire,' a subject on which he was remarkably well informed. He was an acceptable writer also in several publications dealing with mathematics, and especially in that section of the *Educational Times* of which his friend Mr. Miller was the editor. In 1868 he compiled a series of serviceable notes on the history of Saddleworth, describing the place-names, the early inhabitants, the Conquest, and the Domesday survey, the lords of the manor, prices and earnings in the thirteenth and fourteenth centuries, the rise of manufactures, the churches, schools, and notable men of the district. His character was exceedingly amiable, genial, and attractive."

A correspondent writes:—"The Edinburgh Summer Meeting was held for four weeks during August, and was thoroughly appreciated by all who joined it. It is a pity that its advantages are not more widely known, or that, perhaps, many do not sufficiently realize how delightful a way it is of spending a holiday, and how much social life is combined with the opportunity of studying science. Admirably-arranged excursions to the many interesting places within reasonable distance of Edinburgh are a feature of the meeting. Edinburgh itself, besides being so historically interesting and so very picturesque, is bracing, and rarely too hot—a great advantage during the month of August. Mrs. Geddes gave several 'at homes' in Ramsay Gardens, at which one met all sorts of interesting people—lamb-like Anarchists amongst others. Entertainments were also given by the students themselves at each of the houses of University Hall. The lectures this year were more especially connected with social science. Professor Geddes, the promoter of the Edinburgh Summer Meetings, gave an interesting course on 'Social Evolution in the East.' Mr. Goodchild's lectures on the 'Evolution of Scottish Scenery,' combined with his geological excursions in the environs of Edinburgh, were much appreciated. There were also lectures by American professors, a very suggestive course on 'Comparative Literature,' by Dr. Robertson, of the Strasburg University, and, last but not least, an amusing and instructive lecture on 'The Way to Teach Geography,' by Professor Meiklejohn. The students were entertained in the various houses of University Hall."

Our Welsh correspondent writes:—A meeting of the Executive Committee of the Central Welsh Board for Intermediate Education was held at Shrewsbury on September 10, and another will be held on October 13 at Cardiff, to draw up a report upon the examination of the schools, for submission to the Central Board at its next meeting. Most of the county schools opened on the 15th. This year the Executive Committee of the Central Board has given notice to the schools (after conference with the representatives of the head masters and mistresses on the Central Board) of the papers of various grades which will be set for examination with liberty, on giving due notice early in the school year, to offer alternative courses. This plan, it is hoped, will secure sufficient uniformity in the work of the schools to make an examination by the Central Board feasible, without the rigidity of a perfectly uniform syllabus for all the schools. In Wales the conditions under which the schools work vary very considerably with different districts. In some schools the children are either English-speaking or have ample opportunities for acquiring a good colloquial knowledge of English; in others they practically use English only as a school language, and out of school speak Welsh. On this account it is very difficult to compare school with school in Wales, unless one is familiar with the prevalent local conditions. New county school buildings have been recently opened at Dolgelley and Llanelly, but, in several places, where an adequate building would add materially to the efficiency of a school, the provision of such a building has not yet been made. On Saturday, October 9, the new buildings of the County School for Girls at Bangor will be declared open by Mrs. W. Rathbone, of Green Bank, Liverpool. A special address will be delivered by Dr. Isambard Owen, Senior Deputy Chancellor of the University of Wales. Mr. W. Rathbone, Principal Reichel, Professor Henry Jones, of Glasgow, and Professor Gray, of Bangor, Chairman of the Local Governing Body, and others, are expected to speak.

The problem of commercial education in England has still to be solved. The Secretary of the London Chamber of Commerce writes to a comtemporary:—

I am bound to say that our ten years' experience of voluntary methods has not proved entirely satisfactory—at all events, from the point of view of the number of youths trained by British schools for commercial purposes. Notwithstanding the great encouragement given by several of the City Companies, such as the Drapers', Salters', Leathersellers', Mercers', and Merchant Taylors', who have generously offered prizes under the Chamber's scheme, and the institution by the members of the Chamber itself of a large number of smaller prizes, the number of pupils sent in in any one year has not exceeded 206, which is the figure of the present year, and also notwithstanding the fact that over 300 of the principal City firms have consented, other things being equal, to give preference and employment to holders of the certificates granted under both the senior and junior branches of the commercial education scheme of the Chamber. It is, I think, evident from this that not only have schools, on the one hand, failed to realize the necessity, even in face of the growing cry against foreign competition, of specially training young men for a commercial career, but also that parents have been similarly neglectful, and have failed to bring the necessary pressure upon schools to give their children the requisite training.

The modified scheme of examinations in the University of London has been much criticised in certain quarters. A correspondent, writing in the supposed interests of private students, says:—

The new regulations set out a scheme for the examination in French which makes compulsory (1) translation from and into French (or German); (2) questions in grammar; and (3) reading a passage in French (or German) aloud, with *viva voce* examination thereon. Now, an Englishman cannot learn to speak the French or German language without assistance, and his day is therefore gone, so far as passing the Intermediate Arts Examination without help goes. Doubtless the Senate means to eradicate the comparatively new system of tuition by correspondence. For some time the best known professional correspondence body has been eliminated from the list of successful candidates. It is well known that a sort of duel has gone on between that body and the University examiners for some years past. But in the final round the University, while winning its purpose, has, nevertheless, ruined the hopes of thousands of poor students, who are henceforth debarred by the new regulations from becoming graduates of an English University when residence is impossible.

The London School Board has diminished the fees, already very moderate, which are charged for admission to the evening continuation schools. As the cost of the remission will fall upon the rates, this is a commendably bold step in view of the approaching appeal to the ratepayers. Last session the total number of students in continuation schools was slightly over seventeen thousand for the whole of London.

The list of Women's Settlements in London is steadily increasing, and branches from some of the older Settlements are being formed. St. Margaret's, Bethnal Green, which works in connexion with Oxford House, is forming a branch at Millwall. The Oxford women students, who formerly worked with their Cambridge colleagues for and at the Women's University Settlement,

Southwark, have now started a Settlement of their own in Lambeth. The Cheltenham women students at Mayfield House, Bethnal Green, are migrating to Shoreditch, and will work in temporary quarters until their new building is ready for occupation. They will have as near neighbours a hall of ex-students of Bedford College, and others who have taken up work at Hoxton. The Hoxton Settlement is beginning on a modest scale, with three rooms in a block of artisans' dwellings.

UNIVERSITIES.

(*From our Correspondents.*)

Oxford.

THE scheme for the training of teachers in secondary schools has made a fair start during the Long Vacation. A month's course of theoretical and practical work had been arranged by Mr. Keatinge, the Tutor in Education appointed by the Delegates of Local Examinations, and thirteen University men, some of whom have been teaching already, came up to Oxford for it. Criticism lessons in Latin, History, French, and Geography have been given, and also lectures on Psychology and the History of Education. The criticism lessons have been very lively, and both the trainees and the visitors who have been admitted seem quite to realize their practical advantage; some of the latter having said that they mean to come up if a similar course is held another year. The theoretical part of the work has as yet proved somewhat less attractive; but that is probably due to a little prejudice against theory, combined with some ignorance of its significance in education. Mr. Keatinge is a man of great energy, and is keenly interested in the development of the scheme, which he considers certain to succeed. Nothing has as yet been started for women, but Miss Cooper has been making arrangements for next term. The lectures will be open to men and women alike, but the supervision of the school work will be arranged for separately.

The Summer Meeting of the University Extension was very successful, and was attended by a number of foreigners, many of whom were from Scandinavia. A rather large number of single lectures were given, some of them by inexperienced lecturers. No doubt such lectures are easier to arrange, and perhaps more attractive, than a course, but they must necessarily be more stimulating than really educational. The science lectures are a notable exception, but for some of these, as well as for the courses delivered in French by M. Tourneux and M. Bonnier, an extra fee was charged. M. Tourneux's lectures were chiefly suited to advanced students, and were attended by some of the college tutors. It is not very easy to see whether the Summer Meeting is intended for serious study or is to be chiefly useful as giving people an opportunity of meeting one another and of hearing a great variety of lecturers, and extolling the merits of University Extension as a "movement." There seems a little too much self-commendation, considering that University Extension lectures have now thoroughly established themselves. Their value, it is to be hoped, is sufficiently appreciated.

It may not be too late to remark upon one or two features in the Class Lists issued in July. The very small proportion of Firsts in Law (3 in 54), and in History (6 in 133), is noticeable, and the large number of Thirds and Fourths in History among the men. Among the women the proportion of Seconds is much greater. The number of men who, without taking Honour Moderations, take History at the end of their fourth year is increasing, and ought, one would think, to lead to an improvement in the quality of the work as a whole. These men are not, however, found in the First Class this year.

Of the Women's Halls, St. Hugh's did best in the Final Schools, with two Firsts, as against one at Somerville; but Somerville had two Firsts in Mathematical Moderations, the first that have been obtained by Oxford students. Both of these students are taking the full degree course.

Wales.

ON the afternoon of October 9, the University Hall for Women at Bangor will be opened by Miss Helen Gladstone. The building is erected by the Bangor Women's Hostel Company, Limited, to provide accommodation for the women students of the University College of North Wales, Bangor. The Right Hon. A. H. D. Acland, M.P., and other distinguished visitors are expected to speak.

The new wing of the Alexandra Hall of Residence for Women Students at Aberystwyth is now being built in order to provide further accommodation. The main building, opened by H.R.H. the Princess of Wales in June, 1896, has already to be supplemented by overflow houses.

The applications for scholarships and exhibitions this year at the University College of Wales, Aberystwyth, shows a steady increase in the number of candidates from the county schools and in candidates desirous of taking the degree of the University of Wales. This augurs well for the future of the University, and for the relations between it and the schools of Wales.

The next annual Collegiate Meeting of the Court of the University of Wales will be held at Cardiff on October 22. A Congregation of the University will be held for the purpose of conferring degrees upon successful candidates for B.A. and B.Sc. The annual Collegiate Meeting of the Court of the University is held annually in rotation at Aberystwyth, Bangor, and Cardiff.

The growth and organization of the intermediate education system of Wales is tending to raise new questions bearing on the future of the University and the constituent colleges. There is a growing feeling in Wales that the educational system of the country will not be complete until the University is enabled by its educational equipment and its resources to give the very best training to those who will teach in the schools, and, as a national University, to take its proper place among other Universities. It is being more and more felt that the policy of the University for some years to come must be in the direction of concentrating and economizing its forces, in order to render it, in the fullest and broadest sense, a true educational power.

APPOINTMENTS, &c.

THE Lectureship in Metallurgy at Mason College, Birmingham, will, it is said, be converted this session into a Professorship. The late Lecturer, Mr. W. G. Macmillan, has been appointed Secretary of the Institution of Electrical Engineers. A Chair of Philosophy and Political Economy has been established at the same College.

THE University Court of Aberdeen has reappointed Dr. Gloag as interim Professor of Biblical Criticism.

MR. W. SAUNDERS, B.A., second master of Cardigan County School, has been appointed Headmaster of Llandrindod School. —Mr. H. V. Dawes, of Wolverley Grammar School, has been appointed Headmaster of Bridgnorth Grammar School.

MISS BESSIE F. COOKE, B.Lit., has been appointed mistress of method at the Training College, Swansea.

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THE new session of the Training College was opened at the College of Preceptors on Monday last. The Evening Lectures constitute the twenty-seventh annual series held in the lecture rooms of the College.

WE have been asked to state, in reference to the Holiday Courses organized by the Teachers' Guild, that Courses in Spain and Italy are in contemplation, and the Secretary of the Guild will be glad to hear from any one who would welcome one or the other of such Courses.

THERE is some talk of establishing a branch University College of Wales at Swansea, in association with either Aberystwyth or Cardiff, at which scientific and technical courses might be taken in preparation for the Welsh degree.

THE Welsh papers are discussing a suggestion made by Prof. Radiguet, that a Celtic University should be established in Iona!

THE Birkbeck Institution opened its seventy-fifth session on September 27. More than two hundred evening classes meet weekly in about seventy different branches of science, in art, and in languages, mathematics, literature, commerce, law, mental science, music, technology, &c. The Wednesday evening lecture list includes, among others, the names of Miss Mary Kingsley, Sir Martin Conway, Mr. George Grossmith, Dr. Drinkwater, Mr. Diosy, Mr. Max O'Rell, Rev. A. Boyd-Carpenter, Dr. Rentoul, M.P., and Dr. Fison.

THE City of London College also resumed work on Septem-

ber 27. In addition to the ordinary classes, a course of lectures is announced to be delivered on Monday evenings by Mr. J. Churton Collins on "The Poetry of Tennyson." These addresses are arranged in connexion with the London Society for the Extension of University Teaching. On the Thursday evenings of the term Mr. G. Armitage-Smith, M.A., is announced to lecture upon "Political Economy (Production, Laws of Value, Rent, Wages, and Profits)."

THE Council of the London Society for the Extension of University Teaching have arranged a varied programme for the Michaelmas term. Courses of lectures in literature will be delivered by Messrs. P. H. Wicksteed, J. C. Collins, C. E. Mallet, W. Hall Griffin, Owen Seaman, F. S. Boas, and J. A. Hobson; in history, by Messrs. S. R. Gardiner, Graham Wallas, J. H. Rose, C. E. Mallet, J. W. Headlam, H. J. Boyd-Carpenter, W. G. De Burgh, H. E. Malden, G. C. Henderson, A. Paul, and E. Jenks; in geography, by Messrs. H. J. Mackinder, T. R. Marr, H. Y. Oldham, and G. G. Chisholm; in economics, by Messrs. G. Armitage-Smith and A. Milnes; in architecture, by Messrs. A. Mitchell and F. Bond; in geology, by Mr. F. W. Rudler; in the history of painting, by Mr. G. P. Gaskell; in physiology and biology, by Messrs. E. A. Parkyn and P. C. Mitchell; in astronomy, by Dr. A. H. Fison; in electricity, by Drs. A. H. Fison and A. P. Laurie; and in chemistry, by Professor V. B. Lewes.

THE names of two ladies appear on the lecture list of the London School of Economics, which reopens on October 1 with an inaugural lecture by Mr. A. S. Hewins-Tooke. The lady lecturers are Miss E. A. Macarthur, head Lecturer on History at Girton College, Cambridge, who will lecture on "The Development of the Office of Justice of the Peace, with special reference to its Economic Functions," and Miss Tomn, also a Girtonian, who has chosen as the subject of her lecture "The Referendum." Miss Macarthur's name is familiar in academic circles as that of the lady who has started a hall for women post-graduates studying at Cambridge.

EVOLUTION OF THE HIGH-SCHOOL MISTRESS.

WHEN the social historian of the nineteenth century takes his pen to record its important developments, he ought, certainly, to set down the fact that about the middle of its course a distinctly fresh human type arose in the person of the high-school mistress. For, observe, "high-school mistress" is by no means "governess" writ large. She is a new creation; she arose out of a new set of conditions, supplies a different want, works in a different environment, to a different end, by different means, from those of the familiar figure of the governess of the family or private school. She has not, of course, superseded the governess, who is still with us, and has a work to do which her more public sister cannot perform.

The private governess has always played a melancholy part in fiction. Her misfortunes, virtues, and unaffected beauty have formed a valuable part of the novelist's stock in trade, and one scarcely dares to think what would happen were she to be suddenly swept from the human stage. But there is no doubt that the popular idea of her sorrows has had a very real foundation in fact, and that she has often met with scant respect from parents, children, and servants, in the house of her bondage. The history of the education of English girls, up to the middle of this century, at least, sufficiently warrants the stern words which Ruskin wrote in "Queens' Gardens": "What teachers do you give your girls, and what reverence do you show to the teachers you have chosen? Is the girl likely to think her own conduct or her own intellect of much importance when you trust the entire formation of her character, moral and intellectual, to a person whom you let your servants treat with less respect than they do your housekeeper, and whom you yourself think you confer an honour upon by letting her sometimes sit in the drawing-room in the evening?"

In a single graphic sketch Charles Dickens has drawn for us the picture of the governess as she used to be, in the inimitable chapter which relates how Mrs. Todgers and the Pecksniffs called upon Miss Pinch. There you have the whole thing in a nutshell. How the world frequently looked upon "the governess" can be seen in the insufferable condescension of Mr. Pecksniff and the lifted noses of his daughters. You have the cool insolence of the pupil, the searcely concealed "superiority" of the footman, and the prying interference of the mother. Who can forget "the tone in which the footman announced 'visitors for Miss Pinch,' with a nice discrimination between the cold respect with which he would have announeed visitors to the family and the warm personal interest with which he would have announced visitors to the cook." How well one can fancy the Pecksniffian entry, and Ruth Pinch's humble gratitude, and Mr. Pecksniff's amazing condescension, and the sniffing hauteur of the Misses Pecksniff, together with their indignation on discovering that Miss Pinch was "neither a fright nor a horror," but distinctly well favoured. And she a governess!

Fiction, however, is sometimes used as a means of expressing personal experience, and, whilst Miss Pinch was drawn as a result of observation and an unusually keen sympathetic imagination, the Brontë sisters drew their pictures of governess life straight from the life. It was their own strenuous experiences that they were representing in the severe lines and sober colouring which we know in their books.

As far as one can tell, teaching was never a labour of love to any of the sisters, but a severe necessity, a task which they rigorously performed, but for which they professed no enthusiasm, and in which they found little joy. Here, as elsewhere in life, their part was to "bear rather than rejoice." I cannot help thinking that in this they were like a very large majority of the old type of governess, and that in this matter a great change for the better has taken place.

One of chief articles of the modern educational creed is that a teacher who is to do the best kind of work must possess a sympathetic insight into child-life, and must cherish a confident view of its possibilities. Some even maintain that to be a good teacher one must first be an enthusiast, though that is considered in many quarters to be a counsel of perfection, which practical persons may meet with the tolerant smile of one who listens to advice, but does not intend to take it. I think few persons would say that buoyancy of temperament was a distinguishing mark of the old-time governess. I do not think she would have cared to read "Studies of Childhood," even if it had been written, and I think she would have looked upon the activities of an enthusiastic Froebelian as sheer waste of time.

The increase of enthusiasm among teachers is no doubt largely due to the fact that it is not now necessary that every girl who wishes to earn her living should go out into the world as a companion or a governess. She may train as a hospital nurse or a type-writer, or take to County Council lecturing or horticulture. Mr. Matthew Arnold always stoutly maintained that the English nation cared for many things—for wealth, for industrial advancement, for prestige—but that they never truly cared for education. The steady perusal of the column in the daily papers devoted to advertisements for "Tutors and Governesses" might well lead any serious reader to the same conclusion. The services required of the governess are indeed many and diverse, but they are valued at next to nothing. Perhaps one of the most galling in its way, to an efficient teacher desiring private work, is the advertisement which demands a "useful governess," for a large family of small children. Now the word "useful" may seem harmless enough at the first glance, but a little analysis reveals in it an insulting and sinister meaning. It irritates one's logical sense, and at the same time wounds one's professional honour. "What on earth is a governess," one asks bitterly, "if not useful?" Usefulness is one of the essential qualities in the definition.

Gloomy visions arise of the daily trial of living with a person whose logic is as poor and whose regard for learning as slight as that advertisement implies. Under the term "useful" the lady of course includes such trifling duties as dusting, sweeping, cooking, and mending. In short, she wants some one who will teach her children in the intervals of being a general servant; only she does not say so. Poverty may be the excuse for this particular class of employer, but it will not serve in the case of the wealthy lady who, not long ago, in one and the samo interview, offered £17 for her governess and £70 for her cook. It makes the matter little better to know that the would-be governess, being skilled in culinary matters, promptly accepted the post of cook, as, I fear, she may thereby have confirmed the lady in her estimate of the relative value of cookery and culture.

The high-school mistress is really quite a new woman, dating back only about twenty-five years, when the Girls' Public Day School Company was formed in London through the efforts of the Women's Educational Union. Ever since the century began the word education had been in the air, and a certain number of persons spent a large part of their time trying to convince the country in general, and Parliament in particular, that we must have something like a general system of education in England.

After about half a century of talking, writing, and experimenting, wo got the School Board system established in 1870, and an inquiry into private schools, made a few years earlier, revealed some appalling facts about so-called secondary education. But the condition of girls' schools was far the worst, and, in process of timo, a small band of enthusiastic meu and women began to stir up quiet people, and at length succeeded in convincing some of these that the education of English girls needed revolutionizing, and that it was lamentably deficient, scrappy, and superficial. These persons actually held that a girl ought to have the chance of as good an education as her brother, and that her mental powers, such as they were, should have scope to develop. They went as far as to urge that she should have the possibility of University training at the end of her school life.

The fruit of these ideas was seen in the foundation of Girton College, which began its work tentatively at Hitchin in 1869, and was shortly followed by the establishment of Newnham College and Somerville Hall, Oxford. It was in these colleges that some of the first high-school mistresses were prepared for their work, and from them the high schools still draw a large number of their teachers. In the new

schools the old elegances of learning held only a minor place in the curriculum, which was put on a broad and liberal basis, and before long the high-school girl shared with her brother the proud privilege of sitting for a local University examination.

In her early stages the high-school mistress, fresh from Newnham or Girton, was, perhaps, a trifle inclined to pose as the learned woman. She was addicted to spectacles, and gowns of sad sea-green; and report says that she was often severe of face and something plain. But by this time the girl who has been to college has learnt to see things in their just proportions, and carries her learning more lightly. She occasionally goes to the opposite extreme, and is pleased to affect ignorance of all but the lightest topics in society, and, according to a well-known *Saturday Reviewer*, the innocent face of the mathematical genius seems to say to all comers, "Poor little me! What do I know of conic sections?" By this time also physical training and games have become an important feature of girls' schools, and, instead of the back-board and lessons in deportment, there are the gymnastic class and the hockey or tennis club, led by an athletic member of the staff, who counts it among her qualifications that she was captain of the fire brigade at Newnham.

The high-school mistress no longer "hears lessons" out of the well-known inconsequent question-and-answer book, in which most of the information was given in the question and was simply confirmed by the answer. In such books did Dr. Brewer guide one's timid steps in the difficult paths of historical and scientific knowledge. The opening sentences of one of these small volumes still linger in my mind. Here they are: "*Q.* Why is this little book put into your hand?—*A.* To make me wiser and better. *Q.* How will it make you wiser and better?—*A.* It will teach me many things which I never knew before." Possibly some of the pupils have since had reason to doubt whether everything which one "did not know before" does for that reason make one "wiser and better." Another question is from a history book, a bit of terse biography. The teacher asks: "Who was Robespierre?" and the awe-struck pupil replies: "A filthy demagogue."

In her social life the high-school mistress forms a great contrast to the quiet and retiring family governess of old times. Instead of dwelling in the shelter of a family, and being continually in the atmosphere of the school-room, and on her school-room behaviour, so to speak, she generally escapes, after four o'clock, to the independence of her life in rooms, and to such social and intellectual life as her school work permits. This self-reliant and self-sufficing young person, has, indeed, so far established her position in the social economy that she has begun to figure as the advanced woman of more than one modern novel. If they are to be believed, she attends, and—tell it not in Gath—her headmistress also attends, socialist suppers (followed by cigarettes), and is found on Sunday afternoon disseminating inflammatory literature among the crowds in Hyde Park at a labour demonstration. Fancy Ruth Pinch, or Lucy Snowe, within three miles of a platform! After this, perhaps, we had better close the book.

MILDRED SPENCER.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A MEETING of the Council was held at the College, Bloomsbury Square, on the 25th of September. Present—Mr. Eve, in the Chair; Mr. Barlet, Mr. Baumann, Mr. Bayley, Mr. Bidlake, Rev. A. W. Boulden, Mr. Brown, Dr. Buchheim, Mr. Butler, Mr. Charles, Dr. Dillon, Rev. Dr. Hiron, Rev. R. Lee, Dr. Maxwell, Mr. Milne, Mr. Montgomery, Mr. Pinches, Mr. Reynolds, Rev. W. J. Savell, Rev. Dr. Scott, Mr. Sergeant, and Mr. Storr.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the Professional Preliminary Examination held on the 7th to 9th of September was attended by 223 candidates, of whom 60 obtained certificates qualifying for rogistration as medical students.

The report of the Finance Committee was adopted.

Miss E. A. S. Dawes, M.A., D.Lit. Lond., Weybridge Ladies' School, was elected a Member of the Council.

The following persons were elected members of the College:—

Miss H. M. Bath, A.C.P., Highfield, Highbury Place, N.
Mr. C. F. Boyer, Gosberton Hall, near Spalding.
Mr. F. H. Hayward, B.A., B.Sc. Lond., F.C.P., 24 Seymour Road, Stapleton Road, Bristol.
Miss S. A. Lord, 70 Church Street, Egremont, Cheshire.
Mr. H. S. Rivers, 5 Guinea Street, Bristol.
Mr. R. J. B. Sanderson, 105 Monton Road, Eccles.

The following books had been presented to the Library since the last meeting:—

By the AUTHOR.—Sewall's Angel of the State.
By the AGENT-GENERAL FOR NEW SOUTH WALES.—Coghlau's Wealth and Progress of New South Wales, 1894.
By the VOLTA BUREAU, WASHINGTON.—Bell's Science of Speech.
By G. BELL & SONS.—Bell's School Calendar; Deighton and Emtage's Introduction to Euclid; Hunter's Carlyle's Hero as Man of Letters; Ryland's Psychology.
By BLACKIE & SON, LTD.—Palmerston Sight and Sound Primers (Primer II. and Infant Reader I.); Walker's Needlework and Cutting Out; Walters' First Steps in Latin Prose, and Hints in Greek Prose.
By C. J. CLAY & SONS.—Cambridge Higher Local Examination Papers, June, 1897.
By HACHETTE & CO.—Thompson's Racine's Athalie.
By W. B. CLIVE.—Matriculation Directory, June, 1897; Allcroft and Hazel's Vergil's Aeneid, Book IV.; Allcroft and Mills' Vergil's Aeneid, Book II.; Briggs and Bryan's Tutorial Trigonometry; Deakin's Euclid, Books I.-IV.; Evans and Fearenside's England under the Later Hanoverians; Haydon's Aeschylus' Persae; Holman and Irvine's Questions on Logic; Plaistowe's Aeschylus' Septem contra Thebas, and Translation; Richardson and Hazel's Exercises and Test Questions on the Tutorial Latin Grammar.
By MACMILLAN & CO.—Auden's Cicero, Pro Plancio; Sanderson's Electricity and Magnetism for Beginners; Ward's Selections from Valerius Maximus; Webb's Selections from Wordsworth.
By G. PHILIP & SON.—Dyer's Common-Sense Method of Double Entry Book-keeping, Parts I. and II.; Littlewood's Cane and Rush Weaving.
By RIVINGTON, PERCIVAL, & CO.—Burrow's First Book of Kings; Cheriton's Short Spelling Manual; Cumming's Mechanics for Beginners; Delacourt's Rolland's Les Deux Sœurs; Glazebrook's Lessons from the Old Testament, Junior Course, and Notes on Lessons from the Old Testament, Senior Course, Vol. I.; Greenstock's Single Term Latin Readers (13); Harper's Beginners' French Grammar and Exercises; Hillard's St. Mark's Gospel; Kettlewell's Ruth and Samuel I.; Trotman's Elementary Non-Metallic Chemistry; Wethey's New Manual of Geography (Vol. IV., Europe).
By SIMPKIN, MARSHALL, HAMILTON, KENT, & CO.—Spiers' Drill on French Accidence and Elementary Syntax, and Graduated Course of Translation into French Prose.
By SMITH, ELDER, & CO.—Victoria Readers, Book V.
By MARCUS WARD & CO.—Short History of England; Goldsmith's Vicar of Wakefield.
Calendars (1897-8) of Edinburgh University; Glasgow University; Queen's College, Cork; St. Andrews University; University College, Bristol; Yorkshire College, Leeds.
Institute of Chemistry: Regulations and Lists, 1897-98.
Programme of Technological Examinations, 1897-98.
N.U.T. Report, 1897.
Society of Accountants and Auditors: List of Members, &c.

COLLEGE OF PRECEPTORS.

PROFESSIONAL PRELIMINARY EXAMINATION—PASS LIST.

SEPTEMBER, 1897.

THE Supplementary Examination by the College of Preceptors for Certificates recognized by the General Medical Council, the Incorporated Law Society, the Royal College of Veterinary Surgeons, the Pharmaceutical Society of Great Britain, and other bodies, was held on the 7th, 8th, and 9th of September, in London, and at five other local centres, viz., Birmingham, Bristol, Jersey, Leeds, and Liverpool. The following candidates obtained Certificates:—

FIRST CLASS.

Pass Division.

Ibbotson, W.
Le Bas, D.
Thomason, T. B.
Watson, A. P.

SECOND CLASS.

First Division.

Aubrey, H. P.
Boothroyd, J.
Bradford, A. B.
Caton, J. W.
Crockett, G. M.
Dakin, H. D.
Dawson, K. A.
Denning, G. F.
Dunkerton, N. E.
Edgar, A.
Evans, K. H.
Faulks, E.
Harvey, F.
Harvey, F. P. P.
Higginson, W. F.
Hodgson, E. C.
Linck, H. A.
Neil, W. H.
O'Sullivan, D. T. B.
Phillips, G. R.
Platt, J. E.
Read, W. W.
Roberts, F. D.
Spencer, S.
Stockwell, R.
Webb, E. C.
White, E. B. C.

Second Division.

Birch, G.
Brown, C. F. M. A.
Brown, J. A.
Calland, A. O.
Cooke, R. S.
Dixon, A.
Ellis, L. C.
Featherston, J. W.
Fisher, A. O.
Greenfield, H. H.
Gryspeerdt, L. G.
Herne, E. du P.
Holliday, J. H.
Kirby, H.
Little, W. L.
Neal, F. D.
Nicoll, C. V.
Oliver, E. S.
Pallin, S. F. G.
Parker, W. R.
Porter, J. H.
Readman, W.
Redwood, R. V. de A.
Richardson, A. H. S.
Riseman-Harris, L. G.
Stedman, P. H.
Steele, O. F. W.
Stevens, W. S.
Sutton, G.
Targett, F. W.
Taylor, M. B.
Tessier, C. P.
Ward, B. T.
Ward, G. H.
Williams, A. E.
Zachary, S. J.

Third Division.

Adams, F. R.
Auffray, W. J. C.
Backus, H. W.
Barlow, F.
Beadnell, H. O. M.
Benett, A. M.
Bolton, P. T.
Booth, L. T.
Campion, G. B.
Canton, E. F.
Cooper, F. W.
Cox, J. E.
Danaher, H. W. B.
Frizelle, A.
Glover, H. A.
Grimsdale, H. A.
Halliwell, J. E.
Hutchinson, A. S.
Iles, A. J. H.
Jack, W. G.
Lewis, D. T.
Marshall, H. F.
McLeod, D.
Molloy, E. I. J.
Morford, R.
Oswald, C. P.
Quinlan, R.
Thomas, H. E.
Wallace, A. B.
Wilson, G. F.
Wilson, N. M.
Wolf, H.

The following qualified for Registration as Medical Students, but did not pass in all the subjects required for a Second Class Certificate:—

Bradshaw, G. A.	Hardy, G. F.	Swanson, G. I.
Burpitt, H. R.	Heslop, A. H.	Walters, H. B.
Couldrey, T. R.	Hill, N. W.	Westmorland, J. H.
Dodd, S.	Strong, A. H.	

COLLEGE OF PRECEPTORS.—CERTIFICATE EXAMINATION, MIDSUMMER, 1897.

List of the successful candidates at the Colonial Centres—Batticaloa (Ceylon), Colombo (Ceylon), Freetown (Sierra Leone), Grenada, Jamaica, and Nassau (Bahamas).

N.B.—The small italic letters denote that the candidate to whose name they are attached was distinguished in the following subjects respectively:—
a = Arithmetic, *g* = Geography,
e = English, *s* = Scripture.

The small figures [1] and [2] prefixed to names in the Second and Third Class Lists denote that the candidates were entered for the First and Second Classes respectively.

BOYS.

SECOND CLASS.—1ST DIVISION.

de Silva, C. E. P.	*e. a.*	City College, Colombo, Ceylon.
Redhead, J. J.		Private tuition.
Van Dort, H. A.		City College, Colombo, Ceylon.
Cardinal, J.		Private tuition.

SECOND CLASS.—3RD DIVISION.

Lee, E. F.		City College, Colombo, Ceylon.
Waller, W.		Private tuition.

THIRD CLASS.—1ST DIVISION.

[2]Ferguson, O. P.	*e.*	Private tuition.
Hitchcock, W.		City College, Colombo, Ceylon.
Bonifass, E. C.	*a.*	,, ,, ,,

THIRD CLASS.—2ND DIVISION.

Silva, M. D. S.		City College, Colombo, Ceylon.
Chelliah, S.	*a.*	,, ,, ,,
Lucas, J.	*a.*	Private tuition.

THIRD CLASS.—3RD DIVISION.

Kelly, G.		Private tuition.
Vyramuttu, D. P.		Wesleyan Central Inst., Batticaloa, Ceylon.
Redhead, T.		Private tuition.
Ambiapager, K.		Wesleyan Central Inst., Batticaloa, Ceylon.
Etherees, I. L. M.	*a.*	City College, Colombo, Ceylon.

GIRLS.

FIRST CLASS.—PASS DIVISION.

Holmes, B. U.		Queen's College, Nassau, Bahamas.
Cole, M. E.		,, ,, ,,
Saunders, W.	*s.*	Kingston Academy, Jamaica.

SECOND CLASS.—3RD DIVISION.

[1]Marshall, M.		Kingston Academy, Jamaica.
Abrahams, M. L.		,, ,, ,,

THIRD CLASS.— 1ST DIVISION.

[1]Garrett, M.		Kingston Academy, Jamaica.
Bain, E.	*s. e. g. a.*	Girls' High School, St. George's, Grenada.
Gibbes, F. C.	*s. e. g. a.*	,, ,, ,, ,,
[2]Moore, H. E.		Annie Walsh Memorial School, Sierra Leone.
[2]Coker, N. R. E.		,, ,, ,, ,,
[2]Thomas, H. L. J.		,, ,, ,, ,,

THIRD CLASS.—2ND DIVISION.

[2]Hayes, E. A.		Girls' High School, St. George's, Grenada.
Renwick, M. C. B.	*e.*	,, ,, ,, ,,

JUNIOR FORMS EXAMINATION.

BOYS.

Bates, T. W.	City College, Colombo, Ceylon.
Blackett, W.	,, ,, ,,
Cartigasen, S.	,, ,, ,,
Collman, C. H.	81 Hanover Street, Kingston, Jamaica.
Hitchcock, C.	City College, Colombo, Ceylon.
Hitchcock, V. E. K.	,, ,, ,,
Jacob, J.	Wesleyan Central Inst., Batticaloa, Ceylon.
Martius, R. W.	,, ,, ,, ,,
Nalliah, K.	,, ,, ,, ,,
Nicholas, G. G.	,, ,, ,, ,,
Setukavalar, R. N.	,, ,, ,, ,,

GIRLS.

Curphey, B. M.	81 Hanover Street, Kingston, Jamaica.
Fowler, M.	Kingston Academy, Jamaica.
Hamilton, E.	,, ,, ,,
Heath, I. E.	81 Hanover Street, Kingston, Jamaica.
Lewis, R. M.	Kingston Academy, Jamaica.
Moodie, M.	,, ,, ,,
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Soutar, H.	,, ,, ,,

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COLLEGE OF PRECEPTORS.

EVENING MEETING, SEPTEMBER 27, 1897.

The Twenty-fifth Annual Series of Evening Lectures at the College of Preceptors was opened on Monday, September 27, when Mr. J. J. Findlay, M.A., Principal of the Training College, delivered the inaugural lecture of the session.

Sir Philip Magnus, B.A., took the chair at 7 p.m., and briefly introduced the lecturer.

It is scarcely necessary to introduce to you Mr. Findlay, as he is so well known to you, especially in connexion with what may be termed the essential work of this College. Mr. Findlay is to give this evening an introductory lecture on the "Business of the Teacher," which will inaugurate the carefully-prepared series of lectures on Education, particulars of which have been published. From his knowledge, enthusiasm, and ability no one, I take it, is more capable of directing the course of studies of those who wish to learn something of the real business of a teacher than Mr. Findlay.

It is appropriate, too, that these lectures should be given in this College. Of all institutions, the College of Preceptors has been most prominent in insisting upon the necessity of special training to fit a teacher for his profession, whether in a primary or secondary school. The series of monthly papers which have been read, without break or interruption, for a quarter of a century, have constituted a valuable literature on pedagogics; and, of late years, the College, as you know, has made much more systematic efforts to realize the true ideal of a training college for secondary teachers. These efforts have not been altogether successful. The best opportunities for study have been provided. Lecturers of undoubted ability, experts in their special subjects, have been appointed, an excellent educational library has been placed at the service of the students, but the students for whom this feast of reason has been furnished have not attended in sufficient numbers to justify the expenditure—I will not say of money, but of time and thought—that has been given to the experiment. Well, why is this? The necessity of training for secondary teachers undoubtedly is not yet recognized. The importance of the subject is not realized. The headmasters of our secondary schools, although expressing their undoubted belief in its advantages, do not insist on evidence of training from applicants for masterships; and young men, who themselves feel the want of such education to give them an insight into their professional work, finding that they can obtain posts without such qualifications, do not trouble to fit themselves by any special training for the great work of their life. Among women teachers the advantages of professional training are more fully recognized by headmistresses, with the result that girls are nowadays undoubtedly more intelligently taught than boys.

Well, we have to try and give a reason for this apathy to training among our male teachers. We may arrive at some clue to the explanation if we consider the circumstances and educational conditions in which the necessity for training is admitted, and compare them with those in which the necessity is apparently not fully recognized.

In the sphere of elementary, or, as I would rather call it, primary, education, there exists a well devised system of pedagogic training which teachers are required to undergo. This is the case, not only in foreign countries, where education is better organized than here, but also in this country. It may be that the teachers of our elementary schools are generally less well educated than those of our secondary schools, and that special training in the methods of teaching is thought a necessary supplement. But I do not think this is the sole, or even the

main, reason. It lies partly in the fact that elementary teachers have to do with very young children, whose nature and the growth and development of whose minds must be considered, in the first attempt at teaching. I think the main reason why the study of method and the theory of education is rightly regarded as a necessary part of the equipment of an elementary teacher is that, elementary education being organized, it is not only possible, but essential, to correlate with that organization a system of intruction.

Think for a moment of the public interest which attaches to methods of instruction in relation to elementary schools. From time to time new and improved Codes are introduced. The curriculum of our elementary schools, the sequence of teaching, the age when particular studies should be taken up, the relation of manual to literary studies, the method of science teaching, these, and a great many other matters, are carefully considered by educational experts, before any new Code is issued, or old Code modified; and the attention of Parliament and the public is directed to the consideration of these matters. In a word, elementary education is organized; it is a living factor in our life.

Now, if we consider the condition of secondary education in this country, we know that there is an all-pervading chaos and confusion. In France, Belgium, Switzerland, and Germany, countries with the educational systems of which we are most familiar, we find the same interest attaching to educational problems which have to be worked out in secondary schools as we find in this country in connexion with elementary education only; and in those countries special training is a necessary part of the teacher's education. But in the countries to which I referred secondary education is as systematically ordered as is elementary education at home. Well, what does this show? It shows that, where any system of education is properly organized, there is evolved a practical recognition of the necessity of training teachers to work in harmony with that system. In other words, where there is organization, there is professional training; where there is chaos and confusion, there is indifference to such training. And, if we consider a little more deeply, more fully, indeed, than I can attempt to do this evening, the connexion between school organization and pedagogic training—a connexion which was recognized by the concurrent introduction into Parliament of Bills for Secondary Education and for the Registration of Teachers—you will, I think, see, and see more clearly the more carefully you consider the matter, that the indifference to the study of educational problems, which is shown in the small attendance of students at this College, is due to the fact that there is no system or method, no guiding principles authoritatively recognized in the grade of education in which the teachers you offer to train will be required to work. If the organization once exists, the problems you now discuss will cease to be academic, and become vital questions full of real practical interest.

Well, this is my small contribution to the solution of the problem I have suggested in these few introductory remarks. The belief in the necessity of training will follow as a natural consequence on the organization of our secondary education. Until our different schools are properly co-ordinated under a central authority, charged with the consideration of the appropriate curricula for each grade of school, and their relation to one another, and prepared to give authoritative decisions on vexed educational questions, there will be no healthy demand for professional training, no appreciation of the value of the study of pedagogic problems.

What we have to do, therefore, is patiently to wait. Meanwhile, this College will keep alight the torch of educational learning, and, I think, I may say that the College is fortunate in having so profound an interpreter of the theory of education as Mr. Findlay, whom I now call upon to read his paper on "The Business of the Teacher."

Mr. Findlay then delivered his address.

THE BUSINESS OF THE TEACHER.

Our meeting to-night serves a double purpose: we are commencing a new series of Members' Monthly Meetings, which have been held for so many years under the auspices of our society; we are also commencing the new academic year of the Training College. As you are aware, this enterprise has not yet attained to large proportions: it was hoped that a number of young men would be found willing to enter upon a continuous course of professional training, but for various reasons—mainly, in my opinion, from fear of the expense involved—our numbers have been very small. We have therefore looked around us to see whether the resources of the Training College could not be put at the disposal of teachers in other ways—if the mountain will not or cannot go to Mahomet, well then, Mahomet must go to the mountain!

The various Courses of Lectures which were originally designed only for students-in-training have been therefore thrown open to any who may care to attend, and the hours have been arranged so as to suit the convenience of teachers engaged in active work during the day. This proposal, I am glad to say, has met with some response, and I venture to hope that, as the arrangements become more widely known, we may find young teachers ready to give what time they can afford to professional studies. Situated, as we are, within reach of thousands of teachers, we may fairly expect that a few will be found year by year who not only "gladly teach," but "gladly learn." Older members of the College have often reminded me that an earlier generation of teachers were aided in professional studies under the guidance of Professor Payne, and we feel it a privilege to be able to offer assistance of a similar kind to London teachers to-day.

My principal task, then, this evening, is to introduce students and teachers to the year's programme of lectures, by reviewing the topics which are embraced in the study of Education. You will find on the tables a printed list of Lecture Courses; it is my intention to exhibit these in their connexion, and then to offer a discussion of the subject chosen as the title of this lecture, viz., The Business, or Aim, of the Teacher.

I have another reason, for undertaking this analysis, or bird's-eye view, of the study of education. In spite of the support that is now given by our various societies to proposals for registration and training, there is still a great deal of scepticism as to the value of any serious study of education. Some of my friends affect great surprise at my being able to lecture week after week upon the subject. "Whatever do you find to talk about?" they exclaim. Of course my reply to them is: "Come and see"; but that they will not or cannot do. Hence I think it necessary, so far as may be done in an address, to exhibit the nature and scope of these studies, in the hope that the challenge of these sceptics may find an answer. We can, at any rate, show them that we regard our pursuit not merely as seeking for casual hints about methods and management, but as an *orderly exposition of ideas*, leading from fundamental principles, and leading to a better understanding of the practical business of the school. As I have often said before in this room, I believe that one special need of our profession to-day is a more systematic exposition of professional theory and practice. Much has been written, and is being written, of value about education but half of its influence is lost for the lack of this common groundwork of well-ordered definition and distribution. I maintain, then, that, if a young teacher learns nothing more from us than merely to arrange his thoughts clearly upon the confused field of educational topics, he has learned a habit which will serve him in good stead; for the varied experiences gained in succeeding years will take their proper place in his well-ordered mind, and issue in a body of coherent and effective doctrine, guiding him henceforward in his professional practice. I have regarded this work of analysis and correlation as a most important part of the task which I, along with my students, have sought to carry out during the last two years.

§ 1. Our exposition must commence with a definition. In order to save your time I will offer you a form of words that seem to me to cover the meaning of the term "education": they have appeared in print before,* but I may be pardoned for reproducing them here.

> The adult portion of the community, distributed in the forms of the Family, the State (local and imperial), the Church, and various miscellaneous corporations, desires to promote the welfare of the rising generation. This it seeks to do by the employment of certain deliberate modes of influence, as an addition to the inevitable influences of circumstance and environment which operate upon all human life. These specific influences are called Education, and those who exercise them (whether professionally or incidentally) are called Teachers.

You observe that this statement declares that two factors are necessary to an act of education: the giver and the recipient. You cannot conceive of education apart from an educator. True, popular speech employs the term "self-education," but popular speech should here be corrected: self-culture is an admissible term; self-education is scarcely so.

Who, then, is the educator; who is the fount, the source of

* "On the Definition of Education" (*Journal of Education*, Sept., 1896).

educational effort? Not, surely, the teacher—he is only an agent, employed by adult society to achieve social ends. We must get behind him, and observe how he is appointed to his task by the organized groups of adult society which we call the Family, the State, and so forth. On the first blush these distinctions may be regarded by you as pedantic, but I trust that on further consideration you will admit their necessity—as the starting point for a comprehensive treatment of educational science. It enables us to give a proper place to all those grave administrative problems relating to the control of education which it appears to be the special task of our generation to meet and to solve. The definition involves the position, now admitted by all thinking people, that education is a social duty, a matter of public concern; not, as in earlier days, a private responsibility of parents alone.

Further, you will notice the use of the terms "deliberate" and "specific." He who educates is not concerned in a vague amateur enterprise; his undertaking must be of set purpose, with the conscious adoption of means to an end; supplementing that immense variety of other influences which promote the welfare of the young.

Finally, before leaving the definition, let us notice that it affects the status of the teacher in his attitude towards those corporations under whose authority he acts. We teachers are the servants of society, not its masters; although tradition would ascribe a domineering spirit to our profession. As private individuals we may hold many private opinions, on politics, morals, manners, religion, but as teachers employed for public ends we are bound to distinguish between matters which concern private judgment and those which affect our relations with children; and this reserve, which society claims from us, we can, in return, expect from the authorities who control our work.

§ 2. I have spent some little time upon this form of definition because I wish from it to trace the three principal departments of the study of education.

Firstly, we have to determine what constitutes "the welfare of the rising generation." What are we, as teachers, to set before us as the goal for our work? In a word, what is the *Aim of Education*, the business of the teacher?

Secondly, what steps does the adult society take to achieve this end? What are the functions and mutual relations of the family, the State, and the other corporations which undertake the task? How do these stand with regard to the teacher? These inquiries, which, as I have urged above, make a special claim on our attention at the present day, may be grouped under the title *Administration of Education*. Hitherto, it has not been the custom in our training colleges or in teachers' examinations to give much attention to this branch of study, but I have found that it proves of interest to teachers. I therefore propose to assign a few lectures to it (No. X. in the List).

Thirdly, we have the large field of inquiry within which the province of educational theory is more usually confined; we contemplate the task of the teacher, when brought face to face with his pupil and his school. I have used the terms "Conduct" or "Practice" of Education to indicate this branch of study; the latter term, "Practice," is perhaps the most intelligible, but, owing to the contrasted use of the terms "Theory" and "Practice" in another sense, some confusion of thought may arise; hence I usually prefer the term "Conduct."

You will observe the order of these three divisions: first, Aim, then Administration, then Conduct. This order is not indifferent; you cannot safely arrange your ideas as to the administration of education in any community until you have resolved what are the ends that your plan is to achieve, nor can the teacher hope peacefully to enter upon his task until his status and his relations to those whom he serves have been determined.

This third department of study obviously claims the chief attention of students and teachers, and, on turning to the Lecture List, you will observe the manner in which we seek to cover the ground. First of all, we have to contemplate the child, the subject matter around whom all our interest centres. In Courses IV. and VIII., the aid of physiology is sought in order to understand the child as a physical organism; in Courses V. and VI., the mental life of the child* is brought under review. Assisted by these subsidiary sciences, we are able to investigate the teacher's functions (Courses I., II., III., VII., VIII., XII., XIII., XIV.). In making this investigation we are confronted with one aspect of the teacher's work which enhances our difficulty both in the study of theory and in our daily business—we have to care not only for the isolated individual child, but for the community of children in a school. Theories and methods planned to suit the single pupil may prove useless when applied to the needs of a corporate society. You will find that writers on education have often ignored these conditions — Locke, Rousseau, and even Herbart may here lead us into error. On the other hand our English tradition, of which Arnold is the chief exponent, allows great weight, perhaps to exaggeration, to the corporate influence of youthful society upon the individual.

A fully elaborated exposition of education would probably treat separately of these two aspects, dealing first of all with the unit, and then with the mass as organized in schools. For practical purposes I think it sufficient to devote one course (No. VII.) entirely to problems of organization, and in the other courses to deal with both the single child and the school as occasion arises. You will observe that in discussions on Physiology and School Hygiene (Course IV.) and on Elocution (Course XI.) this same dual treatment is rendered necessary. We cannot sacrifice the interests of the community to those of the individual, nor (in secondary schools, at any rate) are we willing to consult the interests of numbers while neglecting the single child.

This study of the practice of education is confronted with another difficulty to which I must briefly refer. We cannot advance very far upon the road apart from actual dealing with children. Lecture and discussion about teaching and training in the absence of our subject-matter, the child, is, no doubt, to some extent necessary; but it is obviously incomplete, and sometimes, I fear, this procedure leads to error. I trust, therefore, that my own professed desire to correlate such lecture work with practical school experience may protect me from going very far astray in theory, and, so far as effective demonstration can be employed by a lecturer who has not actual charge of a class, we do make the attempt in all our studies to base theory upon actual experience, which can be observed and verified by the students.

§ 3. Let us now revert to the first section of inquiry, to the momentous question which, as I take it, stands on the threshold of education: What is our aim? In what terms can we describe the business of the teacher? In the definition we have expressly evaded this inquiry, contenting ourselves with vaguely indicating "the welfare" of the young as the purpose of education. We have done so in order to secure separate and adequate treatment for this issue.

There are two schools of thought which appear to come into sharp conflict. On the one hand we have writers like Alexander Bain, who would limit our responsibility to the intellect of the child. The schoolmaster, they say, has no concern with ethical ideals; the pupil is sent to him for a certain definite purpose—to secure the development of mental faculty by means of lessons. Anything outside of this range is incidental and should be ignored. On the other hand you have the great masters of our craft, from Socrates and Plato down to Arnold and Herbart, urging with the utmost emphasis the opposite doctrine. They urge us to seek the end of education by enlarging our sympathy, by reaching out into those regions of conscience and character which touch the deepest springs of life. The conflict must be decided, finally, by each of us for himself. I have no choice but to place myself wholly in the ranks of those who accept the highest and fullest responsibility in discharge of the teacher's office. And I do so, not because I am out of sympathy with the desire exhibited by Bain, to treat education as a science; nay, rather, it is my very anxiety to obey the canons of scientific method which leads me to reject his leadership. For it is the first law of true science to have regard to the facts of the situation. Now what are the facts that confront us in our daily work as teachers? Surely the most superficial acquaintance with child-life shows how impossible it is for us to raise an artificial psychological limit between intellect and will, or between mental and moral influence. If you, as a teacher, propose to be responsible for memory and reason, leaving character and habit in the charge of the parents or the clergy, you are adopting a course which is not only contrary to the best traditions of our profession, but contrary to the facts of experience, and to the obligations which parents and public opinion impose upon us.

Fifteen years ago in Oxford we heard Arnold Toynbee offering a restatement of political economy. He rejected the authority of Ricardo and declared his adhesion to the ideals of Carlyle and Ruskin. I do not think that his exposition lost value in the eyes

* It will be observed that the term "child" is technically employed to include all who are subject to the educational process.

of scientific men because he sought to base his social science upon an ethical ideal; nor need we fear the reproach (if it be a reproach) of being called unscientific, in rejecting the narrower theory of Bain and reverting to the ideals of Arnold and Herbart. We must, with them, insist that righteousness exalteth a school as well as a nation; that the first simple purpose underlying every other aim in education is the creation of character. It may be that in some quarters there are influences about us which tend to degrade our ideal, to turn the educator into a mere instructor. What else, indeed, can we expect in a period and a country where wealth and luxury abound, and where it is loudly proclaimed by public men that self-interest is the only motive worthy of our regard? If here and there we teachers find such influences to prevail about us, if we find that a high moral purpose is not expected from us by those whom we serve, we can readily distinguish what is temporary and abnormal from the abiding, the eternal facts of experience. Ours is not the only calling in which the individual finds it difficult to maintain the highest standard of aim and practice.

And yet in no profession, except of course that of the clergy, is it more necessary to admit our obligations to this standard. The medical man, or the engineer, deals in the first instance with the physical world, and he may achieve much apart from an altruistic ideal, but, in the social sciences, any attempt to ignore the fundamental law which binds us to our neighbour is fatal to progress and to truth.

§ 4. This simple statement of the ethical basis of education does not, however, by itself satisfy the situation. Our view of what is possible in the teacher's calling should be checked by our knowledge of child-nature. The child is not an adult, and child-character must be treated according to its kind. In other words, while we are compelled to turn to ethics to guide us in our ultimate aim, we cannot safely rest here; we must look to psychology (or, if you prefer the term, to child-study) and seek there, by actual observation of the child, for the limitations which his imperfect development will impose upon our ethical aspirations.

We seek then, first of all, for the stimulus offered to us in the words and examples of the great teachers of the human race. In the Old and the New Testament, in Epictetus and Plato, in the writings of modern teachers like Emerson and Ruskin—in such illustrious teachers of mankind are revealed the lofty heights towards which our steps should bend; but, lest their inspiration should exalt our ambition beyond its proper sphere, we turn now to the child and study him: our kingdom, like the kingdom of heaven itself, can be entered only by those who are content to humble themselves as little children. At this lowly level we shall be safe from the two perils that beset the idealist: learning how limited are the powers of the child, we shall realize the true limits of our sphere of labour; learning something of the richness of the child's moral nature, we shall be saved from the reaction of unbelief and scepticism, which falls upon those who vaguely long after an ideal without the energy to pursue it.

Finally, restrained but encouraged by contact with the living soul of the child, we shall turn with confidence to the example of the great "practitioners" of our own calling, to those who have lived and worked among children, and we shall tread with confidence on the road where they have walked so safely.

§ 5. Among these leaders of our profession, I have, for various reasons, singled out Arnold in England and Herbart in Germany as especially worthy of our study in connexion with this problem of the educational aim. We cannot, however, entirely accept their guidance, for the world has not stood still during the last half century, our doctrines and practice are influenced, for good as for evil, by the development of ideas in every sphere of life, and our science will not remain true to facts if it ignores these changes. Doubtless it is a formidable task to interpret wisely the forces which are now moving men's minds, and you will not expect any full interpretation from me; I will only venture to point out one or two of the more obvious influences which tend, not to overthrow, but to readjust the older conceptions of the business of the teacher.

The first of these we owe partly to one great man, Froebel, partly to the social movement of our times connected with the advancement of women. The child to us is a more sacred person than he was to our fathers. He has his claims and his rights *as a child*. Hereafter he may have a great future, as we say, before him; but the present also has its claims; let him live his own child-life in a child-like fashion.

You observe that this readjustment of our aim springs from the source to which we have already alluded—a more careful study of child psychology. I am bold enough to believe that this movement will grow in force as time goes on, until it finally revolutionizes the practice of our schools. Much is being talked—more, perhaps, in America than in England—of The New Education. I do not like the phrase, for it suggests an impertinent contempt for the old education, and in many respects I still think that "the old is better." If, however, that phrase and that movement mean anything at all, they mean just this: that your child has a right to self-development, untrammelled by the ambitions and interests of the adult, and that we teachers have to protect him, not only from his own errors and follies, but from the alien claims of his elders. You wish your child to be successful? Very good, but let his successes be such as accord with his simple nature. You desire him to be wise? Yes, indeed, but this wisdom can only grow out of his own apperceiving concepts.

Look back upon the history of education in Europe, and judge whether the child has not just cause of complaint against his elders. Every advance in thought, from the Revival of Learning in the sixteenth to the discoveries of physics in the nineteenth century, has imposed new burdens upon the young, burdens many of them alien to his understanding and his sympathies. Am I too bold in asserting that the besetting sin both of parents and teachers is this unceasing effort to impose on children our interests and pursuits? As soon as some novelty attracts public attention, whether it be a voyage to the North Pole or the danger of paraffin lamps, we find some wiseacre anxious to plague our children with it in school lessons.

It may be our pride to have trained children so as to become prosperous, worthy, faithful men and women hereafter: so be it, but may we not be content so to control their life that here and now they may exist as happy, worthy, faithful boys and girls: if so, our conscience will be clear, even if their lives are cut short by death before the age of manhood is attained.

§ 6. Now, if you will grant the gravity of the plea which I have here urged, I will readily admit that there is an opposite truth, of equal importance, which was also foreign to the minds of our predecessors in the 'forties. This truth is expressed clearly enough in the Technical Instruction movement. I admit this opposing truth in the interest of the child himself, for he will not always be a child, and it is the business of the teacher to aid him gradually in "putting away childish things." Here is the true plea for Technical Instruction: not merely as a new tool in the competition of trade and industry, to develop still further our material wealth, but rather as a recognition of the duty of every citizen to earn his bread in the sweat of his brow, reviving the ancient Jewish principle that every child should be taught the means of honest livelihood.

You will observe that in this matter we cannot abide by the counsels of Arnold or Herbart; fifty years ago education was only for the few; the term "school" then bore some relation to its origin in the leisurely intercourse of scholar and philosopher. Nowadays, when the struggle for existence appears to be more intense, our expression of the aim of education needs to be readjusted; we must see to it, however, that we still, under new conditions, maintain our hold upon the primary moral ideal.

If time permitted, it would be appropriate to observe how these two movements, the increase of sympathy with children and the need of equipment for life, have modified our view of the tools by which we seek to achieve our aim.* The teachers of former days worked mainly under the influence of the Renaissance, and sought in the Humanities alone for the weapon wherewith to train the child towards goodness; to impart knowledge, in their eyes, was the chief business of the teacher; the active and volitional side of human nature received scant recognition. We are surely advancing in the present day a step further: we are not content simply to follow Arnold and Herbart in giving a nobler aim to the studies of the child, but we desire also to bend his activities in recreation, in physical education, and in all the arts towards the same moral end. We need not, however, dwell upon this topic, for indeed it will occupy our attention at a later stage, when we come to consider the selection

* There are, of course, other forms in which the aim of education may be stated, each containing an element of truth. Thus the doctrine of culture inheritance, which demands that the child shall be put into possession of his intellectual heritage, is at least as old as the Old Testament; the doctrine of harmonious development of faculty may be traced to the Greeks. But an adequate criticism of these would take us beyond the limits of this address.

of material for the curriculum. I mention it here as a link of connexion—showing how dependent we are, when proceeding to consider practical problems of teaching, upon our previous inquiry into this first department, the aim of education.

§ 7. It appears, then, that the primitive ethical ideal needs to be interpreted anew under new social conditions. You will readily agree with me that in each age it is also imperilled by new dangers. To the most obvious and most oppressive of these I have already referred :—the forces of competition and wealth are a permanent foe to the simplicity of moral aims. I may mention briefly two other agencies which seem to me to be fraught with more subtle danger. The introduction of science teaching into our curricula has been, as we all agree, a necessary and welcome addition to our resources, but we shall surely also agree that it has sometimes been pushed to an extreme. After all, a knowledge of the natural world is not the highest or most important knowledge open to the child; nor does it lie closest to his affections and interests. First of all he is a human being, and in the pursuit of humanistic studies he has ever found the most direct food for moral nurture. (I of course include the study of the literature of the Bible as taking a supreme place in the Humanities.) It is widely admitted that the one-sided action of such organizations as the Science and Art Department has not only hindered literary culture in our secondary schools, but has imperilled the ethical ideal which underlies our conception of "a sound general education."

Another danger, surely, is to be recognized in our excessive absorption just now in problems of administration. Formerly the schoolmaster was a clergyman; now he seems likely to become a politician! From what I have said in the earlier part of this address, you will see that I make this reference to administration in no spirit of contempt. On the contrary, we owe a great debt to the leaders of our profession, who in recent years have taught us the necessity of organizing our secondary education. But we know that these very leaders are the first to anticipate the danger to which I refer. No interest of party or of organization should suffice to draw us away from the principal subject to which we are pledged to devote our lives: —the one subject of education now and always is the child, and the society of children which we call our school. Only so far as we remain faithful to this interest are we justified in giving what remains of our energy to the common cause of our profession. The business of the teacher is obviously to teach and to train the young; in their society he finds that his aims and hopes for education take a higher range than is permitted to him in the turmoil of educational politics.

§ 8. Here, then, is the standpoint from which we have sought to answer our inquiry as to the Aim of Education. In its fundamental ethical basis it can never change, but, since each period of society, each nation and civilization, produces new codes of conduct, novel readjustment of the moral life, new perils to that life, so the business of the teacher needs to be presented under new aspects, conformable to what I sometimes call "the ethics of the period." And just as to-day we cannot rest content with the standpoint of an earlier age, so we have to expect that the progress of our age will readjust again the terms in which the ethical ideal will be expressed.

Is it, you may ask, for us, as teachers, to forecast this progress? Are we to attempt the *rôle* of reformers of humanity, pioneers of new thoughts, of new ideals? As teachers, surely not; we must be content with a more humble task. Humble, first of all, because we are engaged with children, and they do not require, as yet, the breadth of a new ethic—for them, at least, the old paths will suffice; and, secondly, because of our relationship, in administration, to the society in whose service we are engaged. They look to us to fulfil the ethical obligations of our age with all possible seriousness, rather than to discover a new law of life. The educational reformer has scope enough for progress within the bounds of his school: if he will only improve the practice of education, he will find that the social and ethical doctrine of his age answers sufficiently the needs of the rising generation. Let him faithfully train up his pupils to that level, and he may rest secure; they, when their wings are grown, will fly of their own impulse to heights beyond his ken!

§ 9. I fear, sir, that in this attempt to indicate the function of the teacher I have sometimes adopted the tone rather of the pulpit than of the lecturer's desk; if so, my apology must be found in the nature of the topic before us. In treating of a moral problem of this nature, which affects so intimately our own daily pursuits, we are in danger either of employing overwrought language which betrays the dreamer, or of assuming a false modesty which belies our hearts. We English teachers, I think, are peculiarly liable to this honourable fault of self-depreciation; we hesitate to magnify our office, to talk of ideals, of ethical aims. But this modesty incurs, surely, a special danger of its own, for if we fail, on proper occasions, to express our convictions, we may by our silence give encouragement to those who deny the moral obligation. We cannot be too modest in admitting limits to our personal qualifications for the teacher's office, but no barrier of reserve should hinder us from acknowledging the lofty aims of our calling. Let us contemplate this calling in its true proportion, taking our stand side by side with other professions which are "called" to the service of society.

§ 10. Finally, one question suggested by the critical spirit of our age: Is our aim a reasonable one—that is to say, is it in any measure possible of achievement? Can we, by education, make children virtuous? Can we, by science, save souls? The sceptics of fifty years ago denounced the "humbug" of those who sought by legislation to improve the nation's morals. Can we, they sneered, make men virtuous by Act of Parliament? No! it was replied, but you can make the habit of virtue easy and natural: you can establish favourable conditions for virtue.

You cannot by preaching save souls, but you can touch emotion, arouse impulse, suggest reflection. Now these are possibilities within the teacher's range also; for he can bring all the armoury of professional skill to bear upon this unique problem of the formation of character. Personal influence, environment, the selection of a curriculum, and methods of teaching can all be considered with reference to this supreme goal.

A few References for Students.—The magazine article mentioned in the syllabus—"On the Definition of Education" (*Journal of Education*, September, 1896) contains a more elaborate treatment of the two topics of this paper.

Bain should be read in "Education as a Science," Chapter I., and in his "Presidential Address" (1879) to the Education Society (out of print; a copy is to be found in the Teachers' Guild Library).

For Arnold, Stanley's "Life," Chapter III., is readily accessible. (Thring, of Uppingham, should be read with Arnold.)

The Herbartian literature is now becoming well known to English readers. Rein's "Outline of Pedagogics" (Swan Sonnenschein) and Felkin's "Introduction to Herbart" (ditto) are probably the most useful.

"The Report of the Royal Commission," Vol. I., pp. 130–6, should be read as illustrating the influence of the idea of technical instruction.

"Educational Ends" (Longmans, 1887), by Mrs. Dr. Bryant, deals with the philosophic aspects of the problem.

The writings of F. J. Fleay, "On the Relation of Theory and Practice in Education," and other papers in the *Journal of Education* for 1884, should be read in connexion with Bain and other lecturers to the Education Society at the same period. They help us to understand the variety of influences that have created theories of education in England.

"The Limits of Education" (*Journal of Education*, January, 1890), by Mr. Colbeck, is useful.

"Educational Ideals," by H. C. Munro (Isbister & Co., London), is an historical monograph which deserves to be widely read.

"The Foundations of Success," by S. de Brath (G. Philip & Sons, 1896), looks at the same time to Herbart and to Herbert Spencer.

Sir Joshua Fitch, in proposing a cordial vote of thanks to the lecturer, said that all present were agreed that education was both a science and an art—that as an art it endeavoured to find out the best methods of doing the work, and as a science sought for the principles underlying those methods and justifying them. The importance of directing the attention of teachers to the principles of their work had long been recognized by the College, and he was glad to have an opportunity of testifying his thanks to the College for pointing out the need of professional training and for providing courses of lectures upon the theory, history, and art of teaching. The College had, from time to time, skilfully availed itself of the opportunity of keeping before teachers a high ideal of the aims of their profession. On the present occasion the particulars of a new experiment had been revealed. The College had adopted what he held to be an extremely wise and liberal policy. It had fashioned a series of well thought out and carefully prepared lectures on the various aspects of the teacher's work, and had with great liberality rendered these lectures accessible to large numbers of teachers. He hoped teachers would appreciate and take advantage of them, and that the College would not be discouraged in their efforts on account of the small number of students at present attending the training course. Faith and patience were necessary in such a movement. In commerce it was a rule that demand created

supply; but in education the opposite happened, and the supply must create the demand. His own belief was that, if the College pursued its present policy and still held up from time to time the highest ideal it could of the necessary qualifications of a teacher, the public would little by little become more conscious of the need of special preparation, and the supply would then create a considerable demand. Encouragement might be derived from certain tokens and signs of the times. A late Royal Commission had recommended the registration of teachers, and the moment that such a step was taken it would be asked upon what qualifications the claim for registration was based. Among those qualifications a knowledge of the theory and practice and history of teaching would be one of the most important, and he was sure that the demand for systematic pedagogic instruction would greatly increase, and the whole of the teaching profession would be ennobled and improved by it. But the purpose of this meeting was to be present at the inaugural lecture of what promised to be a fruitful and valuable course. The College was very fortunate in having placed the matter in the hands of one whose laborious study of the philosophy of education had shown itself in such a remarkable way in the address to which they had just listened. He hoped the College would persist with courage, confidence, and patience in the course they had adopted.

The Rev. Dr. Hiron remarked that, as an individual member of the Council of the College, he was sure that the Council greatly appreciated the head of their Training College, and were prepared to second his efforts in every possible way. They all, of course, regretted that the Training College had not shown that side of success which consisted in the gathering of numbers together, and it might be necessary to reconsider some points in their programme. The large attendance at the meeting and the interest shown in the very able lecture they had listened to made it plain that the work ought to be continued, and he felt sure that success, even in the point of numbers, would come later. He had much pleasure in heartily seconding the vote of thanks to the lecturer.

The vote of thanks was carried by acclamation.

HACKNEY GIRLS' SCHOOLS IN THE TIME OF THE COMMONWEALTH.

In Lysons' "Environs of London," it is mentioned that near the Parish Church of Hackney there stood (1795) an ancient mansion called the Black and White House, many years a boarding school for young ladies. It is described more fully in Robinson's "History of Hackney," where we are told the house was originally built in 1578, and that the front, as it appeared before it was pulled down, was probably added by Sir Thomas Vyner, in Charles II.'s reign; that his additions were dark, whilst the earlier part was white—hence the name. It was built of lath and plaster, and the part behind was almost all windows. Robinson gives an illustration of the house, so we can see what the old school looked like. But this was only one of the schools. There must have been a number. Pepys says in his Diary, April 21, 1667: "To Hackney Church. That which I went chiefly to see was the young ladies of the *schools*, whereof there is great store; very pretty." Mr. Peter Cunningham, in his "London Past and Present," states that Hackney was long famous for its boarding schools. He quotes from Wycherley's "The Gentleman Dancing Master," where the hopefulness is expressed that a girl will soon dance a corant, for "'tis but a twelvemonth since she came from Hackney School." So in Shadwell's "Humourists," a haberdasher's wife says: "I am sure my husband married me from Hackney School, where there was a number of substantial citizens' daughters." Mr. Cunningham further quotes a passage from the *Tatler* (No. 83): "For the publication of this discourse I wait only for subscriptions from the undergraduates of each University and the young ladies in the boarding schools at Hackney and Chelsea."

Amongst the women educated in a Hackney school was Katherine Philips, known as the "matchless Orinda." At eight years of age she went to the school kept by Mrs. Salmon, at Hackney, and is said to have been remarkable for her studies by the age of ten.

In 1643, a Hackney girls' school was kept by a Mrs. Perwick, possibly in the Black and White House, in Church Street. Mrs. Perwick had a daughter, Susanna. It is owing to the remarkable qualities and achievements of the daughter that we get a slight glimpse of the school. But this young lady, who died at the age of twenty-five, was so noteworthy that Mr. John Batchiler wrote her life. Unfortunately, the book is written so perfervidly, and is so adorned with flowers of rhetoric in describing Susanna's qualities, that the background of solid fact is neglected. Susanna was to John Batchiler more interesting as a study in religious achievement than any other girl of the school. "Indeed, some there were of those eight hundred that have been educated in her father's house within the compass of her time that did out-do the rest in their respective seasons, some in one quality, some in another, according to their different capacities, and the pains they took or the time they spent, more or less, in the school; but not any one that came near to her in one half of those endowments and rare abilities that she had attained unto."

It appears that the girls were taught—to a large extent—by masters. Batchiler says: "If that be true which Mr. Rogers, Mr. Bing, Mr. Coleman, Mr. Brian, Mr. Hazard, and the rest of the masters of the school have often said in respect of the several qualities she learned of them, that (to use their own words) they knew not where she hath left her fellow in the world. When all her other excellencies are considered also, in conjunction with them, it must needs be then much more true. That is a rich jewel that is made up of all manner of precious stones, and that a sweet nosegay that hath all sorts of fragrant flowers in it."

As one of his reasons for writing this book, Batchiler says he wishes to refute the opinions of those who blame the education of "public schools" (for girls). By the term "public" he means, probably, schools to which a large number of girls go. He urges that they do not necessarily corrupt the manners or morals of youth. "Behold, here, an instance to the contrary, besides many others that might be named of the very same school, there having been always some as virtuous and religious young gentlewomen brought up there as in any private family whatsoever. Nor is it difficult to go to the several cities and counties of this kingdom and find out the houses in which many of them are surviving, beautiful ornaments of the places where they live either as virgins, wives, or matrons." The account of her life, from the educational point of view, has to be disengaged from a mass of verbiage. It is, however, of considerable value as giving an insight into girls' education of the age.

Susanna Perwick was the daughter of Robert Perwick. She was born in 1636, and died in 1661. She was first at school in Aldermanbury, in London, where she learned to read. "She would needs learn,' we are told, "by hearing and observing others rather than by the teaching of her mistress, taking a delight, it seems, to get her learning altogether by her own industry; yea, so impatient she was of being instructed by any, that she would altogether refuse their help, and yet rested not till she had attained to an ability of reading Scripture, full as well and as distinctly as any of her elder sisters. . . . When she was seven-and-a-half years old, her father removing his dwelling to his school at Hackney, where now (1661) he lives, she, among the rest of his children, had the advantage of a choice breeding there, and, in short time, made no small progress in it, especially in the grounds of music, for, at fourteen years and a half old, she was able to play in consort at the first sight upon the treble viol, and this with so much skill, ease, and sweetness that she gave no ordinary hopes of proving a very rare musician." Mr. Ives, one of her masters, was wont to say: "He could play no new lesson before her but she would have it presently."

"The first that grounded her in the notes of music and enabled her to play so excellently on the treble viol was Mr. Thomas Flood, who, falling sick and continuing so a long time, it occasioned her father to make choice of a new master (Mr. Wm. Gregory by name), who, being eminently skilful at the lyra viol, did very much better the making and forming of her hand, and was the first that gave her that rare delicious stroke which afterwards became so singularly peculiar to herself. He also taught her all varieties of rare turnings. That which made her so expert, both in her own play and in judging of others when she heard them, was her most curious ear, seldom equalled by any—the very best masters in that art. Her principal master at the viol for the last seven years was Mr. Stephen Bing. . . . When she played on the viol, though singly, it gave the delight of a full concert; but when in concert with other viols, or a set of lutes only, or viols and lutes together, or with the harpsichord or organ, still her instrument was queen of all, and, as if it had been touched by more than a mortal hand, gave so delicious a sound, and so distinctly too, that any judicious ear might discern it above the rest; insomuch that it might be truly said, look what the racy flavour is to the richest wine; fragrancy to flowers; varnish to colours; burnish to gold; sparkling to diamonds; and splendour to the light; that was her ravishing stroke to all the other music; and yet (which was the more admirable) she sate so steady and free from any the least unhandsome motion in her body, so modestly careless, and as it were thoughtless of what she was about, as if she had not been concerned at all; and all this she did, though she never spent the tenth part of that time in private practice which others are wont to do; for, indeed, she made better use of her time, at other sorts of higher music, which was much sweeter to her, as we shall hear anon."

There is almost as much said about Susanna's performance on the lute (under Mr. Ashbury and Mr. John Rogers, "the rare lutist of our nation") and on the harpsichord and on the organ (under Mr. Albertus Brian, "that famously velvet-fingered organist"). In addition, her vocal powers were "no less delicious, if not more excellent." It was as if "her lungs had been made on purpose (as no doubt they were) by their natural melodies to outdo the artificial; and here Mr. Edward Coleman, her master, and one of the greatest renown for his rare abilities in singing, deserves no less thanks and commendations than her other masters."

In addition, she was an incomparable dancer, in country and in French dances. So "excellently curious was she in her postures, footings, and most graceful countenance, that Mr. Hazard, her last and chief instructor therein, and one of the rarest masters of that art in England, accounted her a prime flower of the age in that respect, and said she was as knowing therein as any dancing-master whatever." For her music and her dancing, especially the music, persons of high

rank and quality came from London and several counties to hear and see her. Foreigners also, French, Spanish, Italian, Dutch, and other travellers, all said the same thing—they had in Miss Susanna Perwick seen one of the "choicest" rarities of England. All professed they had never heard or known of the like in their own country. So speaks Mr. Batchiler of his noar relative, deceased, as to her music and dancing.

But these accomplishments, great as they were, do not exhaust the list. "Whatever curious works at the needle or otherwise can be named, which females are wont to be conversant in, whether by silver, silks, straws, glass, wax, gums, or any other of the like kind, she was perfectly skilled in; to say nothing of her ability at the pen, where, being an accountant, her skill was more than ordinary women have; and in arts of good housewifry and cookery, wherein she had a good share likewise."

Mr. Batchiler then describes with ceaseless admiration the devotions of his near relative. Into this honest pietism we will not follow him further than to note the books which Susanna took chiefest delight in. They were: Mr. Shephard's "True Convert" and his "Sound Believer," Mr. Baxter's "Call to the Unconverted," Dr. Goodwin's "Triumph of Faith and Heart of Christ in Heaven towards Sinners on Earth," Dr. Spurstow upon the Promises, Mr. Watson's "Christian Charter," Mr. Brooks's "Riches of Grace," Mr. Love's works, Mr. Craddock's "Book of Knowledge and Practice," Mr. Francis Roberts' "Key to the Bible," besides some catechetical books.

Mnsic became to her secondary to good reading, good company, and good discussion; yet she kept it up because it was useful in "so public a family." Sundays were most welcome days. She went to church close covered with her hood. On her return, she carefully wrote out the sermon, and made notes, and constantly re-enforced all by prayer. Yet she was troubled at times with a feeling that her holy duties were wearisome to the flesh, and that she was exposed to some "temptation unto vanity."

It is touching to read of her visits to lady friends under restraint in the Tower, with whom she would enter into a "sweet and spiritual converse," after which she would sing and play with "all alacrity imaginable, to comfort them in their sadness, accounting it a high honour that she was in any way able to be a refreshment." Yet when leading musicians "coveted to hear and admire her, though never so earnestly desired, she was still backward to it. She was always ready to assist her mother-in-law in the family and in the school. In Whitweek, 1661, she went to London at the request of a very dear friend, and, through sleeping in damp linen, which (*sic*) eventually led to a violent fever from which she died." The whole school of gentlewomen attended the funeral, and not only so, but the rest of the girls' schools "were all there in their respective places." Susanna Perwick was buried in Hackney Church, under the stone where "Mrs. Anne Carew, one of the great beauties of England in her time, and formerly a gentlewoman of the school and intimately acquainted with her, was buried; being the second of those five gentlewomen only which have died out of her father's house, among those eight hundred which have been educated there within the compass of seventeen years.

One of the elegies added to John Batchiler's account * of Mistress Susanna Perwick describes Hackney as

> "Hackney, the ladies' University,
> Of female arts the famous nursery,
> Which, in their kind at least, may well compare
> With those of th' other sex; what arts so rare
> Which are not liberally furnished here?"

FOSTER WATSON.

REVIEWS.

SIR WALTER RALEGH.

"Builders of Greater Britain." Edited by H. F. Wilson, M.A. *Sir Walter Ralegh: the British Dominion of the West.* By Martin A. S. Hume. (Fisher Unwin.)

Exactly thirty years after Howard, Drake, and the English privateers had sunk or scattered the Spanish Armada, the life of Sir Walter Ralegh was bartered away by the mean-souled James I. for the friendship of King Philip, at the instigation and solicitation of the Spanish ambassador. Ralegh was one of the pioneers and first founders of the British colonial empire; he foresaw and foretold the world-wide sway of England, helped to create her empire of the seas, and hailed his royal mistress as "Empress of the Britains." It is fitting that his life should be chronicled in the first volume of Mr. Wilson's new series; and, after reading this volume from cover to cover, we are satisfied that the task could not have been entrusted to fitter hands than those of Mr. Hume. The story is told without any striving for literary effect; it is a straightforward narrative of events, treated with historical accuracy; but the author does not omit to draw at every point the moral of our maritime adventure and our conquest of naval supremacy. He perceives, also, that even the age of Elizabeth was not the actual starting-point of our dominion of the seas:

> The Spanish Armada was not beaten by fighting, but by *not* fighting. It was the fact that they could not get at the swift handy craft of the English, which turned the proud confidence of tho Spaniards into dismay and panic. It was the superior build of the English ships, and the greater efficiency of the English seamen, which gave Spain her death-blow upon the seas; and these circumstances arose from causes long anterior to the date of the Armada itself. The foundation was laid by Henry VIII. . . . An eye-witness of the attempt of Francis I., with his fleet of three hundred sail, to attack the Isle of Wight in 1544 echoes the impartial foreign opinion of Henry's navy at the time.

Though Mr. Hume does ample justice to the strength and genius of Ralegh, to his great patriotism, his devotion of immense sums in promotion of his schemes of colonization, and his admirable services to the Queen and the commonwealth, he does not blink the less amiable traits in his character, his want of moral nerve, his greed and insolence and inability to conciliate his enemies. His final word is that, even if Ralegh's faults were greater than they were, "his love and faith in the future of England, as the mighty mother of empires and the mistress of the seas, demand for him the judgment that he was a towering Englishman and died for a great ideal."

It cannot be denied that the men of Elizabeth's reign, the men who survived Elizabeth and squared themselves with the meanness and paltriness of James, were in many respects a poor-spirited and unscrupulous band. Cecil had no sooner brought Essex (deservedly enough) to the block than he began to compass the overthrow of Ralegh, who was convicted of high treason, under circumstances eminently discreditable to English justice, a few months after the death of the Queen. His unpopularity at this moment was reflected in the harsh and intolerant attitude of his judges; and the fact of his reprieve after he had been sentenced to death is a tribute at once to his own better qualities and to the cupidity of James. Fifteen years later he was condemned to die on the sentence of 1603, but for offences alleged to have been committed in the meantime; and in this travesty of law and justice Bacon was implicated no less than Coke.

All through the autnmn Ralegh was struggling in the toils, and the Spanish agent reports that in October even bets were being laid at Court that he would escape with his life. . . . The Committee of the Council, whose dnty it was to find some pretext by which Ralegh might "handsomely" be hanged, could only report to the King that they had not found it easy. . . . At length James began to lose patience. The Spanish agent and Father Fuentes were pestering him constantly about the delay in killing Ralegh; the negotiations about the marriage [of Prince Charles] with the Infanta were at a critical stage. . . . Every subterfuge to prove something treasonable against the prisoner had failed, and Bacon and the lawyers of the Crown were instructed to devise some legal fiction by which Ralegh might be sacrificed. His old opponent Coke drew up the opinion at which they arrived.

This picture of an English king and English statesmen and lawyers plotting against one of the greatest Englishmen, in order to kill him at the bidding of Philip of Spain, is not edifying. Mr. Hume's contention—and he brings forward new evidence to support it — is that the main desire of Philip, and of his ambassador Gondomar, was to furnish "an object lesson to England that all South America, at least, belonged to Spain." In any case, the author clearly shows that James drove a bargain for the head of his subject, that he failed to get his price paid down beforehand, and that he was duped and laughed at for his pains.

THE SCIENCE OF SIGNIFICATIONS.

Essai de Sémantique (*Science de Significations*). Par Michel Bréal. (Hachette & Cie.)

M. Bréal, Professor of Comparative Grammar in the Collège de France, has produced a work of much interest and of considerable importance to philologists. The Science of Comparative Philology—we need not stop to defend the title—dates from the discovery of Sanscrit by European scholars; and, for more than half of the period during which the science has existed, it has been avowed by philologists, or at least implied in the terminology that they have employed, that the development of language is wholly independent of the human will. In concentrating their attention on phonology and morphology—to the exclusion of the science of meaning—linguists have come to assume that

* After writing the biography in prose, Batchiler repeats the whole gist of it in verse for the sake of such as affect poetry. At the end of this verse life come elegies by friends.

language is subject to certain iron laws, in the framing of which the intellect of the people has had no share.

It is certain [says M. Bréal—we quote from an essay appended to his volume]—it is certain that the notion of an intention in language was, in former times, greatly abused, and that in its details all sorts of distinctions and of *arrière-pensées* of which it is innocent have been attributed to it. But the opposite doctrine is not less remote from the truth. Modern philology appears to confuse intelligence with reflection.

And again:

Between the acts of a will, conscious and reflecting, and the merely instinctive phenomenon, there is a distance that leaves room for plenty of intermediate states. . . . One must shut one's eyes to the evidence not to see that a will, obscure but persistent, presides over the changes of language.

Here, then, we have the purpose of M. Bréal's vigorous work: and we hasten to add that his position appears to us to be sound. For example, every one knows how large a place is occupied by analogy in our text-books. M. Bréal points out that it is an error to treat analogy as though it were a cause of modification. It is nothing but a means employed by a semi-conscious will to avoid some difficulty of expression—hence the tendency to banish the so-called irregular forms from a language—or to gain clearness, or to mark an antithesis, like that between day and night, or to conform to some rule. Again, intelligence, or the want of it, comes in when, out of an imaginary plural like "oxen," a false word "ox" is produced to serve for singular. This sort of blunder is very common, and we offer our readers an illustration of it which is probably unknown to them. It is taken from another kind of language—the language of music. At the end of many old Psalters there appears a sombre, but very fine, Lamentation, composed by Tallis. The melody of this composition is, in conformity with this composer's practice, allotted, not to the treble, but to the tenor. Some sapient editor of the Psalter mistook the treble part for the melody, and wrote new harmonics for it to suit the style of his own day; and thus the original melody entirely disappeared.

To tell the truth, interesting and striking as are the facts and examples that M. Bréal has gathered from so many quarters, many of the phenomena to which he directs attention are quite familiar to all students of language. It is rather that we are directed into a new way of looking at the facts than that the facts themselves are new. Thus, for example, the phenomenon of the restriction of the meaning of a word is familiar. But how does such restriction come about? M. Bréal points out that it is due to popular habit, to association, and not at all, as we used to be told, to the fact that the thing to which the meaning of the word is so restricted in any way fits the word better than other things of its class. Any one can test the truth of his explanation. How is it that the word "birds" is applied specially to partridges?

Nevertheless, in the course of his work M. Bréal offers a number of explanations of grammatical points that are, we believe, entirely new; such, for example, as his theory that the first person is of greater antiquity than the second and the third. But, whatever be the subject that he handles, whether new or old, M. Bréal's work throughout deserves the attention of all linguists who recognize that there is a real danger in the cut-and-dried nomenclature that is fashionable among modern philologists. It is the great and distinguishing merit of the author that he insists on getting to the roots of things, and refuses to rest content with any explanation that endeavours to veil its inadequacy under a metaphor, or a mere *petitio principii*. What we think the author has proved is that philologists are being led into error by excessive attention to phonology; and he has, besides, opened up the road to a science hitherto very imperfectly explored.

Ethics and Logic.

(1) *A Manual of Ethics.* By John S. Mackenzie, M.A. (Clive.)
(2) *Questions on Logic.* A Companion to Welton's "Manual of Logic." By H. Holman, M.A., and M. C. W. Irvine, M.A. (Clive.)

(1) Professor Mackenzie's popular outline of the main principles of ethical doctrine is already well known to examinees, especially to such as look for their degrees to the University of London. The present edition is not only enlarged, but to a considerable extent re-written, and it appears that the author has profited a good deal by the criticism passed upon his work, both private and public. This is as it should be, and the disposition to profit in this way is particularly serviceable in the case of a text-book where precision and lucidity of statement are especially important, and are all but unattainable without examination from the outside. In this issue Professor Mackenzie has effected some vigorous structural alterations, with the view, and the result, of rendering the treatment more systematic. Other modifications clear away certain obscurities, or, at any rate, causes of misunderstanding; and early in the volume a considerable amount of fresh matter has been introduced on the development of the moral life and of the moral judgment, which, though more strictly connected with sociology and psychology, is certainly most useful, and indeed necessary, here in explanation and illustration. The short historical account of the leading points of view in ethical theory, which is also new, ought to be helpful to students. The special charm of the book is its exceptionally literary handling, a characteristic not free from dangers in the hands of a less careful author.

Professor Mackenzie does not treat the metaphysical foundation on which he believes that the theory of ethics must eventually rest, and the scope of his work is circumscribed to that extent. His aim has been "to conduct the student gradually inwards from the psychological outworks to the metaphysical foundation." This course, we believe, is just as effective a course as could have been adopted; the metaphysics will be better studied apart. The Professor's own standpoint is idealism, after Kant, Hegel, and Green. We will not quarrel on that point, at present, though the temptation is occasionally strong. Any student who is worth considering will take his own line in due course. The worst of it is that the bias sometimes comes out more forcibly than the author's fairness allows us to suppose that he means it to do. Subsequent reading, however, will soon enable the student to redress the balance, and in any case he has to hear all sides. The treatment of psychological hedonism, for instance, will illustrate what we have in mind. Professor Mackenzie cites a statement of the theory from John Stuart Mill, whom he takes to be its best-known exponent, and summarily crushes it by means of a criticism of Dr. Sidgwick's. It seems a pity that he did not set himself to criticise this criticism, for we believe he is quite acute enough to riddle it with holes. To us it appears to be amazingly weak; in fact, the missiles, though rattling prettily around the object of attack, can scarcely be said to touch it at all. Dr. Bain is acknowledged to be "the chief living exponent" of the theory, and that rightly; but the essence of Dr. Bain's exposition remains safe and sound, so far as we can see. Besides, Dr. Bain has treated the subject in the light of Dr. Sidgwick's criticism, and with express reference to it, and we gather that he does not feel a penny the worse. Now, it seems to us that Professor Mackenzie, in the circumstances, should have tackled Dr. Bain directly, and, for that matter, Dr. Sidgwick too. The "Note on Justice" (pp. 311–313), is far from satisfactory. Of course, we must not confuse retributive and corrective justice; but the confusion alleged to exist between the meaning of "just" as applied to a man and as applied to a law or government requires to be reconsidered. To say, as Professor Mackenzie does in the Note, that "a just man means one who obeys orders, *i.e.*, the moral orders or laws," is to plunge into a futile tangle of verbal controversy, based on an etymological fallacy long since exploded. *Jus* (law), though cognate with *jussum* (command), has nothing whatever, originally, to do with "ordering"—*pace* the old Roman fancy and its modern followers. All the same, this manual is a piece of really good workmanship, and it is gratifying to see the author and the publisher taking pains to effect improvements in a book that would sell freely without any such trouble and expense.

(2) Messrs. Holman and Irvine's handy volume is issued in "the University Tutorial Series," and it is not at all surprising to find that it has reached a second edition. Rather it is surprising that questions on the important heads of Induction, Method, and Fallacies should now be supplied for the first time. Though the primary intention is that the collection should serve as a companion to Mr. Welton's "Manual of Logic," it is, of course, perfectly applicable to any other treatise on the subject. This appears very obviously in the fact that the vast majority of the 720 questions are taken from papers actually set in the examinations of the English Universities all over the world, though in the main from the papers of the University of London, for which the University Correspondence College principally prepares. It will form an admirable exercise for the student to test his reading by framing careful answers to these questions. Indeed, it may safely be laid down that some such exercise is absolutely indispensable for a thorough grasp of the principles of the science. We observe that there is a preliminary section of

"general suggestions" and "suggestions on writing answers," which are reinforced by "hints" in the Introduction. The student will do well to con these remarks with diligence; the labour will be amply repaid in the results. The little volume may therefore be recommended without reserve.

A Good Reader.

The Temple Reader. By E. E. Speight, B.A. (Marshall & Son.)

It has been the fashion recently to substitute single stories or poems for the selections of prose and verse that formed the old-fashioned reading-book for schools. Yet the older method has one merit that should not be ignored—the child often becomes attached to his mixed Reader; a poem here, a scrap of a story or a bit of an essay there, appeals to him, and kindles a rare feeling that may presently become developed into a love of literature. A term's work at one of Shakespeare's plays or one of Scott's novels does not always have so happy a result. It has been Mr. Speight's ambition to produce a selection of the best passages of the best authors, from Homer and Isaiah down to Darwin and Ruskin. "It is," he says, "in accordance with the real meaning of the word *education* that this book is intended to be educative." In an interesting introduction which he has written to the work, Professor Dowden says: "To have even heard of Cervantes, of Dante, of Spenser, of Keats, is a step in education. To know that there is a literature of the world, and to have felt, even for a moment, something of its seriousness, its beauty, its generous passion, its pathos, its humour, is to lay a sure foundation." This it is that gives a value to such a well-chosen series of extracts as the present. Even if the sense be not thoroughly understood by the young reader, and, it must be admitted, some of the passages are hard, there remains, to quote Professor Dowden's words once more, "some suggestiveness of thought, or some stirring of emotion, or some quickening of imagination, or some music for the ear, some pattern of beauty in language, which refuses to be analysed, and which sinks into the consciousness, there to effect an inward change."

Mr. Speight leaves his passages to do their own work: there are no notes, but each extract is preceded by a brief "appreciation" of the writer by some author of note. This is an original and interesting feature in this excellent book.

SHORT NOTICES.

CLASSICS.

Cicero, Pro Plancio, edited, with introduction and notes, by M. W. Auden, M.A. (Macmillan), is well up to the high standard that has by this time been fixed for Messrs. Macmillan's "Classical Series" by a succession of able editors. Mr. Auden's introduction, which extends to upwards of eighty pages, gives the results of extensive and careful reading, and though it contains, we think, nothing that is absolutely new, it contains plenty that will be novel to the English classical student. Among the novelties we may mention a history of the speech, and a concise and well-planned summary on ancient rhetoric, drawn from the best authorities. Of ancient rhetoric, at least as put into practice by the ancient orators, most of our students—and not a few of our teachers—know nothing whatever; and, especially in reading Cicero, they often have only a very vague notion of what the speaker is about. To all such we can heartily and confidently recommend this scholarly and interesting piece of work. Wherever we have tested the notes, we have found them equally admirable, and we heartily wish Mr. Auden's edition of the "Planciana" the success that it deserves.

Valerius Maximus, Selections, edited by C. H. Ward, M.A. (Macmillan), belongs to the series of "Elementary Classics," and contains vocabulary, notes, and exercises on grammar. The last will be useful for written work. We think the selection rather too full of proper names to make an entirely satisfactory reading-book, unless, indeed, the text can be used in conjunction with an elementary Roman history; but that, we fear, would be a very slow process. The notes are good and well suited to their purpose, as they do not give too much help. Mr. Ward understands how to give hints.

Cicero, Pro Lege Manilia, with notes and vocabulary by Rev. R. Harvey, M.A. (Hachette), is apparently designed for rather lower forms than those for whom complete speeches are usually edited. Some of the notes are quite elementary. Mr. Harvey is especially fond of little remarks of this sort: "*N.B.*—Mando, &c., 1, 'to entrust'; mando, -di, -sum, -dere, 3, 'to chew.'" That is a kind of information by the way—a something thrown in unasked for—that is apt to irritate the luckless youth when he is trying to make out a speech of Cicero. There are also some long quotations in Latin that would not have been missed. They swell some of the notes to an inordinate size, and they are not likely to be read.

Cæsar, De Bello Gallico I.–III., edited by J. H. Merryweather and Rev. C. C. Tancock (Longmans), is a new and revised edition brought into agreement with the "Revised Latin Primer." The book contains many good notes and unusually good maps, but no vocabulary or exercises.

Vergil, Aeneid II., edited by A. H. Allcroft, M.A., and T. R. Mills, M.A. (Clive), belongs to the "University Tutorial Series," and that, apart from the known qualifications of the editors, is a sufficient guarantee that the book is business-like and thoroughly adapted to serve its end. There is a curiously wrong note on line 95, which we do not remember to have seen in any other edition. The rascal Sinon says: "Si patrios unquam remeassem victor ad Argos," whereon the editors remark—what looks at first sight plausible enough—"'*towards* Argos,' *i.e.*, to Greece (not '*to* Argos,' which would require no preposition). Sinon did not need to go *to* Argos, for his home was in Euboea." Now Sinon has previously explained that he is *Argolica de gente*. Let us take a modern instance and the absurdity of the explanation becomes at once apparent. Imagine a rogue trying to make his way to Klondyke gold-fields. He is explaining to a native of those parts that he hopes to have his revenge on a rival rogue if ever he returns to his home. And how does he put it? "I was born," he says, "in London; but in early youth I settled in the Isle of Wight. If ever I sail home *towards my native London*, I shall have my revenge." The man addressed would not be likely to infer that the stranger meant by this that he hoped to land at Ryde. It is obvious that, if *Argos* in our passage means "Argos," and not "Greece" in general, Sinon means that he hoped to land at Argos with Agamemnon. Either *ad Argos* means "*to* Argos," or "*to* Greece." It certainly does not mean "towards" anything. In the former case, it may be observed that the supposed rule about the names of towns, with a preposition added, does not hold good. But the rule itself is a mere fiction, and, in colloquial and Augustan Latin, "ad Argos" can quite as well mean "*to* Argos," as its descendant, "à Paris," means "*to* Paris." (*Cf.* the famous passage in Suetonius, *Oct.* 86).

We have received from Messrs. Rivingtons a number of handy *Single Term Latin Readers* and *Single Term Greek Readers*, graduated in three books to each term, and constituting a course of six terms for Latin and three terms for Greek. The selection of pieces has been systematic, with a view to steady development of construction; there are notes, vocabularies, and corresponding sentences to be turned from English into Latin. Only practice with pupils can pass a final verdict on a new series of school books, but these cheap and simple Readers produce a favourable first impression.

From Messrs. Blackwood & Sons we have, in their convenient and still very readable series of "Ancient Classics for English Readers," edited by Mr. Lucas Collins, *Pliny*, *Cicero*, *Socrates*, and *Euripides*.

SCIENCE.

"Organized Science Series."—(1) *First Stage Sound, Light, and Heat.* By John Don, M.A., B.Sc. (Clive.) (2) *Electricity and Magnetism for Beginners.* By F. W. Sanderson, M.A. (Macmillan.) (3) *A Course of Practical Chemistry.* Part I. By M. M. Pattison Muir, M.A. (Longmans.) (4) *Organic Chemical Manipulation.* By J. T. Hewitt, M.A., D.Sc., Ph.D. (Whittaker & Co.) (5) *Laboratory Practice for Beginners in Botany.* By W. A. Setchell, Ph.D. (Macmillan.) (6) *Glimpses into Plant-Life: an Easy Guide to the Study of Botany.* By Mrs. Brightwen. (T. Fisher Unwin.)

(1) Except for its containing decidedly more than is set out in the Syllabus, Mr. Don's book should meet the requirements of students preparing for ordinary Science examinations. The author shows himself able to explain in a helpful manner. He would, however, have done well to omit entirely all reference to the so-called "radiation of heat," rather than confirm, as he does, the popular fallacy on this subject.

(2) This is a work in which there are neither old-fashioned ideas for the student to unlearn at a later stage nor too early introduction of modern theories. We can, therefore, recommend it for beginners, provided they have already gained a good knowledge of mathematics. Magnetism is treated first, and, in accordance with modern ideas, current electricity precedes electrostatics.

(3) Here we have a long and carefully-graded series of experiments in elementary chemistry, leading up from the nature of chemical change to the characters of oxides, acid and basic, and salts. These are followed by exercises in volumetric analysis, and these by a course in qualitative analysis. The instructions for all experiments are clear and full, and occasionally interspersed with questions to stimulate thought. It should prove a good guide to elementary chemistry in the laboratory.

(4) The student of organic chemistry is not as well provided with laboratory manuals as in his inorganic stage; he should, therefore, appreciate Mr. Hewitt's work, of which nearly one-half is occupied with the methods of ultimate analysis of organic substances, the remainder consisting of instructions for the preparation of a great variety of organic compounds. A first chapter treats of methods of purification.

(5) Dr. Setchell is Professor of Botany in the University of California, and he has prepared this treatise on the basis of his own laboratory work. It will be found to be full of suggestions for the teacher, and decidedly helpful in the study of plant life and organic functions. The

directions for experiment and the questions intended to test the intelligence of students are both clear and thorough, so that we have little doubt as to the practical value of this introduction to structural botany. It is certainly calculated, as the author trusts, "to cultivate careful and accurate observation."

(6) Mrs. Brightwen has unquestionably succeeded in her attempt to make the study of botany interesting, at all events to such as are of a studious turn, and have an interest in plants to begin with. It is for these that she has written this simple, yet systematic, and even scientific, account of the structure, life, habits, and physiology of plants. The well written and illustrated volume may safely be commended as a first introduction to a science which has too often been made dry and forbidding to beginners.

MATHEMATICS.

(1) *Dynamics of Rotation.* By A. M. Worthington, M.A., F.R.S. (Longmans.) (2) *The Tutorial Trigonometry.* By William Briggs, M.A., F.R.A.S., and G. H. Bryan, Sc.D., F.R.S. (Clive.) (3) *Euclid: Books I.–IV.* By Rupert Deakin, M.A. (Clive.) (4) *An Introduction to Euclid, including Book I. 1–26.* By H. Deighton, M.A., and O. Emtage, B.A. (Bell & Sons.)

(1) Mr. Worthington's "Dynamics of Rotation" is a small volume of practical utility which aims at giving a simple explanation of methods of treating the more important questions of rigid dynamics. It is thus especially useful for students of engineering. Any one who has a sound knowledge of the principles of elementary dynamics can turn his attention to the rather more advanced work provided in this book without entertaining any misgivings as to his ability to understand it. The whole book is admirably planned and written, and cannot fail to arouse the interest of the reader.

(2) "The Tutorial Trigonometry" covers all the ground usually included in elementary works on the subject; *i.e.*, it gives, with moderate fulness, the trigonometry of the triangle, quadrilateral, and regular polygons. The greater part of the text is excellent, and leaves nothing to be desired either in clearness or completeness of exposition. A notable exception, however, occurs in chapter iv., which begins with an explanation of the fundamental notions of positive and negative, as applied to lengths of lines. The following vague statement is emphasised in thick type:—"If a distance measured in one direction be represented by a, then $-a$ may be properly and conveniently interpreted as representing an equal distance measured in the opposite direction." It is only charitable to suppose that the authors have here given expression to something quite different from what they mean. A distance measured in its own direction is always positive; it is only when it is measured in a direction opposite to itself that it is negative. Again, the authors are surely mistaken in supposing that their graphic representation of the sine, cosine, and tangent curves involves any new departure in elementary text-books. We very much approve of the plan adopted of defining the trigonometrical functions in terms of abscissa, ordinate, and radius.

(3) There are many excellent features in Mr. Deakin's "Euclid." The propositions are given without symbols and awkward brevities, the notes to the propositions are such that every pupil can read them without fear of waste of effort or time, the helps and hints to the solution of riders are extremely valuable, and the type and figures are splendidly clear. If any schoolmaster is not satisfied with the text-book which he has at present in use, we recommend him to try this one.

(4) The object of this book is to explain the first principles of geometry in an easy way for beginners. The chief features are the arrangement of the exercises in such a manner that the pupil is led up step by step to each proposition before he is confronted with it in its complete form, the payment of special attention to the treatment of angles and superposition, and the introduction of contractions and symbols from the outset. We have always thought that the use of symbols formed a stumbling-block rather than a help to the beginner.

MISCELLANEOUS.

The School Calendar and Handbook of Examinations. (Whittaker; and Bell & Sons.)

This is the eleventh annual issue of a very serviceable little volume, which steadily increases in value to the schoolmaster and private student. The calendar of examinations and dates, and the lists of scholarships and other aids to students, are remarkably full, and, so far as we have observed, thoroughly accurate. We do not, however, find an entry of the examinations for naval cadetships.

"The Children's Study."—*Old Tales from Greece.* By Alice Zimmern. (T. Fisher Unwin.)

This is the latest volume in an excellent series; and fortunate will those children be who get their first knowledge of the gods and heroes from Miss Zimmern's little work. The stories are told with admirable simplicity and clearness; they are carefully arranged so as to give as much continuity as possible, and each tale is told immediately out of some Greek author, the actual words of the original being frequently used. Miss Zimmern's book is completely successful, and its appearance leaves nothing to be desired.

Practical Domestic Hygiene. By J. Lane Notter, M.D., and R. H. Firth, F.R.C.S. (Longmans.)

This useful volume includes chapters on elementary physiology and human anatomy, with forty or fifty pages on the care of the sick and the management of slight accidents, in addition to the twenty chapters on hygiene in relation to water, air, ventilation, food, and diet, the dwelling and its surroundings. The scheme is thus very comprehensive, and the treatment of the subject is plain and graphic. The three hundred pages are replete with useful information, well arranged and precisely stated. On the whole, this volume impresses us very favourably.

Humane Science Lectures. By Various Authors. (Bell & Sons.)

These five lectures were delivered last winter under the auspices of the Humanitarian League and the Leigh Browne Trust, and were designed as a protest against "the attempt of modern science to get rid of human feeling, and to look at everything in the dry light of the intellect." The authors are Edward Carpenter, J. A. Thomson, the Rev. W. Douglas Morrison, Dr. J. M. Bramwell, and Prince Kropotkin.

Names and their Meaning: a Book for the Curious. By Leopold Wagner. (T. Fisher Unwin.)

This fourth edition of Mr. Wagner's book of Names is a sufficient proof that "the curious" have found attraction and amusement in its pages. It aims at giving us the origin of the designations attached to the various countries of the world; to creeds and sects; to birds, flowers, wines, carriages, and dances; to religious orders, political sections, authors and editions of books, London districts, streets, buildings, and inns, and so forth. Mr. Wagner is often more positive in his explanations than a more learned and cautious man might be; but it is evident that, with such a great variety of material, he has the opportunity of being both instructive and entertaining. It is an opportunity of which he freely avails himself.

The Gleaming Dawn: a Romance of the Middle Ages. By James Baker. (Chapman & Hall.)

Mr. Baker is imbued in the spirit of the early fifteenth century. In "A Forgotten Great Englishman" he has cast much light upon the life of Peter Payne, an Englishman who took up with Lollardy at Oxford, and afterwards played a prominent part in the Reformation drama in Bohemia. His hero in "The Gleaming Dawn" is a friend of Payne's, and (as he avers) of Payne's sister; and, as time goes on, he is mixed up with Sir John Oldcastle, and Falstaff, and many another Wyclifite and Hussite in the perilous days of Henry of Richmond and good King Wenceslas. Mr. Baker's story is full of life and movement; as a mere romance it is sufficiently engrossing, but as an essay at historical elucidation it is particularly welcome and serviceable. Nothing could be better calculated to impress upon the reader's mind a vivid picture of the struggle for independence of mind and conscience amongst our mediæval ancestors.

(1) *Doctor Adrian: a Story of Old Holland.* By D. Alcock. (2) *Charlie is My Darling.* By Anne Beale. (3) *Steadfast and True.* By L. C. Silke. (4) *In the Hollow of His Hand.* By Hesba Stretton. (5) *On the Edge of a Moor.* (Religious Tract Society.)

These five illustrated stories are amongst the first detachment of the annual host of Christmas gift-books and prizes, and in that light they may be regarded as a good instalment. "Doctor Adrian," by the author of "Spanish Brothers," is a tale of Dutch patriotism in the long struggle against Spain in the sixteenth century, and deals with many exciting passages of history in a very attractive manner. In "Charlie is My Darling" we have a cheap edition of one of Miss Beale's best stories, which may already be known to some of our readers. "Steadfast and True" is another tale of the Reformation century, a simple yet stirring narrative of the Huguenot days. Miss Hesba Stretton's new story, "In the Hollow of His Hand," has its foundation in our own times, and takes its local colour from Russia, being a tale for children, somewhat melancholy, but very delicate, of the Stundist persecutions. "On the Edge of a Moor" is a quiet and rather romantic English story; the heroine is an independent young woman, and her adventures are decidedly interesting, if not very striking.

A Guide to Zermatt and the Matterhorn. By Edward Whymper. (Murray.)

Mr. Whymper's "Guide to Zermatt" is a companion volume to his "Guide to Chamonix," published last year. It is not merely a practical aid to climbers, but also a history of Alpine climbing in this district: and, of course, it includes the thrilling story of the first ascent of the Matterhorn in 1865, with the death of the Rev. Charles Hudson, Hadow, Lord F. Douglas, and Michael Croz. That will always remain the most striking chapter of Swiss mountaineering.

Animals' Ways and Claims. By Edith Carrington. (Bell & Sons.)

The Instructions of the Education Department to its Inspectors, in respect of teaching by object-lessons, remind them that "it is very desirable that such courses should include lessons on animal life. The value of the services which many animals render to man should be dwelt upon, and the importance of kindly treating them and preserving them should be pointed out. By these means, and in other ways, good object teachings may lay the foundation for the right direction of the

activity and intelligence of the children throughout the whole school." Miss Carrington's book is very well adapted to serve, or at least to assist, a purpose of this kind. It combines a large amount of instructive and pleasant reading, many anecdotes, and nearly two hundred good illustrations, with a modicum of classification and a distinct encouragement of kindliness to animals. It is an excellent and a very presentable volume.

Selections from Wordsworth. By W. T. Webb. (Macmillan.)

Professor Webb's selection is thoroughly representative of the poet; it is well printed, the notes are good, and the introduction makes legitimate use of Matthew Arnold, Mr. Morley, Mr. Myers, and other commentators. The book is well fitted for reading, recitation, or critical study.

Helps to the Study of Arnold's Wordsworth. By Richard Wilson, B.A. (Macmillan.)

Who was Arnold? We ask the question as a boy or girl of sixteen might ask it. Is it Thomas of Rugby, or Thomas Korchever, or Thomas of Dublin, or Matthew the son of Thomas? Mr. Wilson lets out his secret in a haphazard way, but he would have done better to state the fact directly in his preface. If it is worth while to use a short ladder in order to reach the middle of a long one (which might be denied on the strength of a proposition of Euclid), then Mr. Wilson's help to Matthew Arnold's study is useful.

(1) "The Books of the Bible."—*The Second Book of Kings.* Edited by the Rev. W. O. Burrows, M.A. (Rivingtons.) (2) "Murby's Scripture Manuals."—*Ruth, Haggai, Esther.* (Murby.)

Instalments of two useful editions of the English Bible, with introductions and notes. Mr. Burrows supplies a great deal of useful information, and his interpretations of the text are often luminous.

Reigns in Rhymes. By William Knight, M.A. (Simpkin, Marshall, & Co.)

In the Victorian Era Exhibition there is a collection of the poor school books in use at the beginning of the Queen's reign, side by side with specimens of the excellent ones commonly used now. We should have thought that an attempt to teach a few facts of English history in doggerel verse was charactoristic of a very early period. But here is a book in which history is dealt with as follows:—

"*Richard II.*
"A second Richard. Wat the Tyler rose:
'Twas Bolingbroke who did the king depose."

The rest is silence. The verse, however, is not always of this high order; the frequent inversion of the natural order of the words betrays how severe a struggle it has been to get the metrical form. For instance, the line

"But Monk the Members' Pride put out put in"

shows traces of the effort it has been to compose it. We suppose it is intended to mean that "General Monk restored the Rump Parliament." Remembering our youth, we have a certain kindly feeling for this belated fossil, this poor fly crawling feebly in a wintry sun. But how are we to account for it? The recurrence of an ancient type is always interesting. Mr. Knight is perhaps the precursor of a new Mrs. Mangnall and her "Questions." He is perhaps the standard-bearer of a new era. We have thrown out the Secondary Education Bill; we have refused degrees to women. Are we about to burn our educational libraries and revert to the horn-book and the sampler?

Outlines of English Literature for Young Scholars. By J. Logie Robertson, M.A. (Blackwood & Sons.)

A short and simple introduction, with illustrative extracts. It is adequate to its unpretentious purpose, as a two years' course for the Scottish Leaving Certificate of the lower grade.

(1) *The Graphic Object Reader.* Edited by Mr. T. Yates, LL.D. Book I. (Collins.) (2) *Object Lessons.* By G. Colomb, D.Sc. Adapted into English by Seymour J. Gubb, B.A. (Relfe.)

These are two very good books of object-lessons—the "objects" being, of course, pictures illustrating the letterpress. In the first-mentioned, the type and pictures are larger, and some of the pictures (mostly well drawn) are coloured. In the other, there are six hundred and fifty pictures, with a short paragraph to each, somewhat in the manner of Paul Bert. Such books do not, in the strictest sense, furnish object-lessons, but they are very useful for the purpose of general information. These are two favourable specimens, and we can commend them both.

Forms for Criticism Lessons. By J. Welton, M.A., with Preface by W. Scott Coward, M.A., H.M.I. (Macmillan.)

This is a very serviceable quarto book of good paper, ruled for entering the results of criticism lessons. In advance of the forms Mr. Welton poses a large number of discriminative and suggestive questions, sufficient to equip any intelligent person with materials for a lesson.

A Common-sense Method of Double-Entry Book-keeping on First Principles. In Two Parts, Theoretical and Practical. By S. Dyer. (Philip & Son.)

Mr. Dyer says that he had his idea for these books from De Morgan, and is "prepared to stand by it." It has distinct advantages in simplicity, and will be useful both to teachers and to students who have no teachers.

We have received the following publications:—

International Congress on Technical Education: Report of the Proceedings of the Fourth Meeting, held in London, June, 1897. (Society of Arts.)

City and Guilds of London Institute: Programme of Technological Examinations, Session 1897–98 (Whittaker).

The Student's Pestalozzi, by John Russell (Swan Sonnenschein)—the fourth thousand of a short account of Pestalozzi's life and system.

A Note on the National Gallery of British Art, by Charles Hiatt (no publisher's name).

A War Map of the North-West Indian Frontier (W. & A. K. Johnston)—a clear and full shilling map, just in time.

Twice one are two, or Arithmetic in Verse; More Nursery Rhymes (*Review of Reviews* Office)—excellent pennyworths.

Dramatic Scenes for the Schoolroom and the Scholar (same publishers).

Victorian Verse: a versified Chronicle of the Record Reign (same publishers)—an interesting reprint of popular typical poems.

Fluent Readers: Standard 0, with Word-Building and Coloured Illustrations (Chambers)—the little pictures are exceptionally good.

Practical Plane Geometry, Standard VII. (McDougall)—clear figures and constructions.

The Evolution of the English Alphabet, by H. G. Taylor Jones, B.A. (Relfe)—an interesting card of comparative types.

Rolit: a Game for Learning French, and Substitute for Conversation, by J. J. Tylor (Cassell & Co.)—with a bag of loose cards, each holding a word.

A Review of Sakuntala of Kalidasa, by Pandit S. M. Natesa Sastri, B.A. (Madras: Srinivasa)—a helpful study for Sanskrit scholars.

The Class Teacher's Journal, by G. H. Robinson and H. M. Cohen (Macmillan)—very conveniently ruled for a daily record of work done in various subjects.

The "Memoranda" Attendance Class Register, by Stephen York (Kettering: York)—for elementary schools.

The Palmerston Readers: Sight to Sound Primers (Blackie & Son)—decidedly the most artistic little pictures we have ever seen in a child's primer; heartily commended.

LITERARY GOSSIP.

To the new volume of the "Dictionary of National Biography" Mr. E. C. Marchant contributes an article on Shilleto, familiar at Cambridge in the last generation as a liberal-minded humanist. Sir H. Trueman Wood writes on Sir William Siemens.

The Clarendon Press announce twenty-five volumes in their series of "Oxford Classical Texts." Of these, it may be mentioned, two are undertaken by masters of St. Paul's School, and three by old Paulines of the past ten years.

The "New English Dictionary" is now published under the patronage of Her Majesty the Queen. The new part comes down to the word "Frankish."

The National Home-Reading Union has added several new courses to its programme for the ensuing (ninth) season. A "new scheme" of the Union is intended to facilitate the introduction of reading circles into the elementary schools.

The contents of the next three monthly instalments of Mr. R. L. Poole's "Historical Atlas of Modern Europe" will be as follows:—For October, "Germania Sacra, showing the Ecclesiastical Divisions in the Middle Ages," by the editor; "Poland after the Union of Lublin," by R. Nisbet Bain; "Italy in 1454," by Miss Ewart. For November, "Germany under the House of Hohenstaufen," by the editor; "The Byzantine Empire in the Tenth Century," by Professor Bury. For December, "Europe at the time of Otto the Great," by the editor; "Scotland, c. 1600," By G. Gregory Smith, M.A.; "The House of Savoy in Italy," by Miss Ewart.

The Religious Tract Society's autumnal list of books, some of which are exhibited at the Church Congress, contains this year several of exceptional interest. The Bishop of London's "Story of some English Shires," has been so rapidly subscribed that the *édition de luxe,* limited to 150 copies, was exhausted as soon as announced.

We quote the following paragraph from our lively contemporary, *Le Français,* the organ of the Society of French Professors in England, and of the British section of the Alliance Française:—"Nous adressons nos plus vives félicitations à Miss Bertha Phillpotts, fille du sympathique directeur de Bedford Grammar School, Mr. J. S. Phillpotts, laquelle vient de remporter au Collège de Girton, à Cambridge, la bourse Pfeiffer pour l'allemand et le français. On se souvient que c'est Miss

Phillpotts qui a remporté la médaille d'or au grand concours de l'année dernière."

The *Kindergarten Review* is a new magazine, published at Springfield, Massachusetts.

CORRESPONDENCE.

A DIFFICULT PROBLEM.

To the Editor of the Educational Times.

SIR,—Might I suggest a plan which will subdue the worst memory, being one of the many applications of Charlin's System of Teaching Languages? Let your correspondent collect gradually all words that have proved, or are likely to prove, a stumbling-block, and write them in a bold clear hand. The pupil looks at a word, to which she points with one hand; she then covers it with the other, and spells it aloud. Then she does the same with the next word, and so on. Every day, twice a day, for six months, let her cover the *same* ground, starting from the very beginning some two hundred times. It will require much less time than would appear at first sight, and anything so learnt will endure a lifetime.—Yours, &c., STICKLER.

MILLER TESTIMONIAL FUND—COMPLETE LIST OF SUBSCRIPTIONS.

WE print below a complete list of subscribers to the testimonial, consisting of a watch and purse, which is to be presented to Mr. W. J. C. Miller. The watch bears a monogram, with the following inscription on the inner case:—"Presented, with a Purse of Gold, to W. J. C. Miller, Esq., B.A., by friends and correspondents in England, America, India, and on the Continent of Europe, as a small token of personal esteem, and in acknowledgment of his eminent services to mathematical science through the *Educational Times*. October, 1897." We understand that the presentation will be made privately to-day, 1st of October.

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September 21st, 1897.

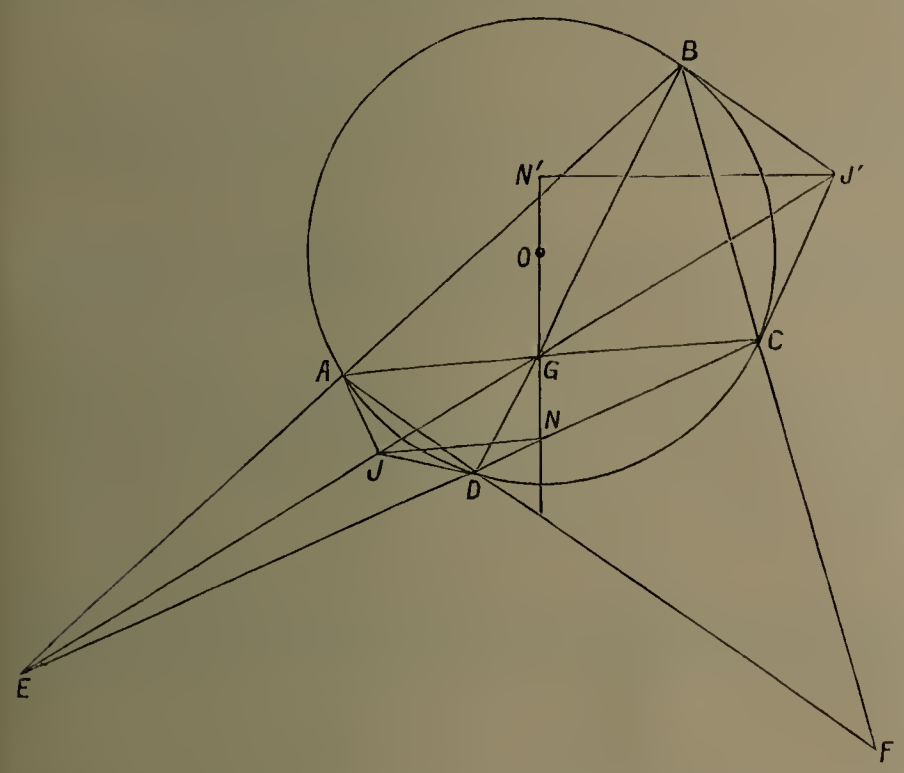
MATHEMATICS.

13547. (R. KNOWLES, B.A.)—ABCD is a quadrilateral inscribed in a circle centre O; the diagonals AC and BD intersect in G; TN, T′N′ are the perpendiculars from T, T′, the poles of AD and BC on GO; prove that

$$TN : T'N' = TG : T'G.$$

Solution by W. E. JEFFARES, B.A.; *and* Professor A. DROZ-FARNY.

Produce BA and CD to meet in E, and AD and BC in F. Since BF and AF are chords drawn from F to cut the circle in four points, the joins of these points directly and transversally (viz., the lines CD and AB, also BD and AC) intersect on the polar of F (see McDOWELL's *Exercises in Modern Geometry*, p. 258, Ex. 241), in E and G. Now, if



tangents are drawn from A and D, they meet in T on the polar of F (see solution of Quest. 13204 in Vol. LXVI., p. 57). Also, if tangents are at B and C, they meet on the poles of F; therefore E, T, G, T′ are collinear. Now, if perpendiculars are drawn from T and T′ on the line OG, the triangles TGN and T′GN′ are equiangular, and therefore

$$TN : TN' :: TG : T'G.$$

[The rest in Volume.]

13522. (Professor H. LANGHORNE ORCHARD, M.A., B.Sc.)—Find the product of the series — $1+3+6+10+15+21+\ldots$ to n terms, by the series—$1+6+18+40+75+126+\ldots$ to n terms; and show that n, $(n+1)$, and $(n+2)$ are factors of the product.

Solution by the Rev. ROBERT HARLEY, M.A., F.R.S.; J. WOODCOTE WEST; *and many others.*

Let S_1 represent the sum of the first series, and S_2 that of the second, to n terms.

$S_1 = \frac{1}{6}n(n+1)(n+2)$, as is well known.

To find S_2: The $(n+1)$th term of the second series is $\frac{1}{2}(n+1)^2(n+2)$, which, adopting the factorial notation

$$n(n-1)(n-2)\ldots(n-m+1) = n^{(m)},$$

may be written in the form $\frac{1}{2}n^{(3)} + \frac{7}{2}n^{(2)} + 5n + 1$.

Integrating this expression, and determining the arbitrary constant (which in this case is zero) by a reference to the first term of the series, we obtain $S_2 = \frac{1}{8}n^{(4)} + \frac{7}{6}n^{(3)} + \frac{5}{2}n^{(2)} + n$,

or, more simply, $S_2 = \frac{1}{24}n(n+1)(n+2)(3n+1)$;

therefore $S_1S_2 = \frac{1}{144}n^2(n+1)^2(n+2)^2(3n+1)$,

and both S_1 and S_2, as well as their product, contain the factors n, $n+1$, and $n+2$.

13573. (L. E. REAY, B.A. Suggested by Quest. 13540.)—A point B moves on a fixed conic. A and D are fixed points on the conic; BC passes through D; the angle BAC is constant. Find the locus of C.

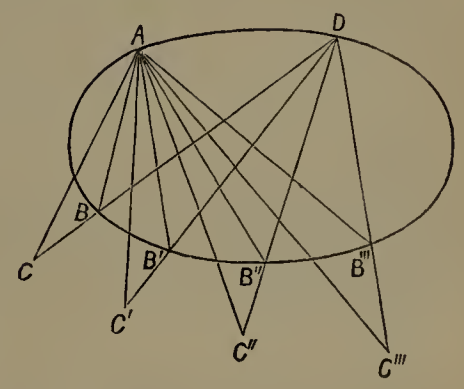
Solution by Rev. J. CULLEN, B.A.

The anharmonic pencil

$$\{A.BB'B''B'''\} = \{D.BB'B''B'''\} = \{D.CC'C''C'''\},$$

also, since the angles are equal,

$$\{A.BB'B''B'''\} = \{A.CC'C''C'''\} = \{D.CC'C''C'''\}.$$

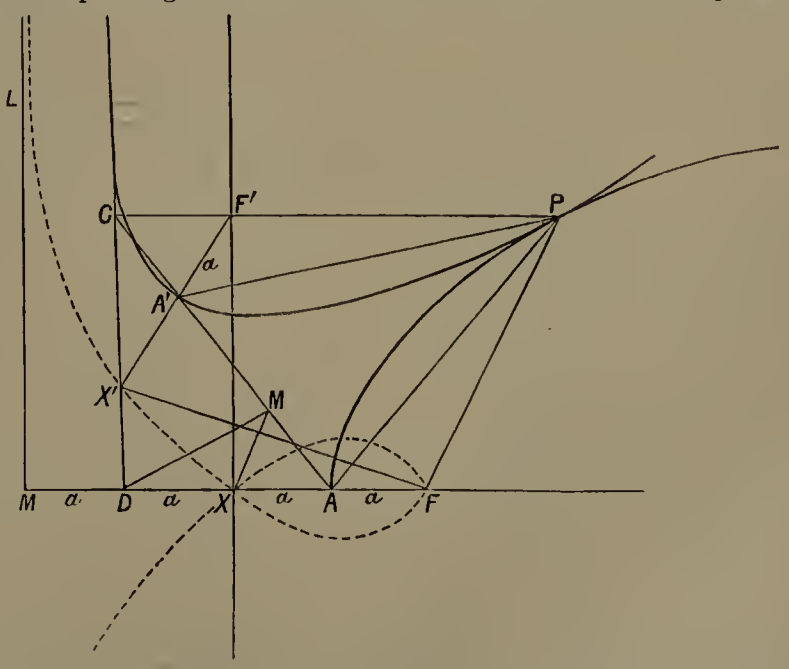


Therefore the locus of C is a conic also passing through A and D.

13528. (Professor R. W. CHAPMAN, M.A., B.C.E.).—Two equal parabolas, A and B, are placed with their vertices together and their axes in the same straight line, but in opposite directions. If A rolls upon B, prove geometrically (*a*) that the focus of A traces out the directrix of B, (*b*) that the vertex of A traces out a cissoid, (*c*) that the point of intersection of the axis and directrix of A traces out the curve $r = 2a \cot \frac{1}{2}\theta$.

Solution by the PROPOSER; Rev. J. CULLEN, B.A.; *and others.*

(*a*) Let F′ be the focus of the rolling parabola. Common tangent at P makes equal angles with PF and PF′. Therefore PF′ is parallel to



XF. The triangles APF, A′PF′ are equivalent, and PF = PF′. Therefore F′ is on the directrix of PA.

[The rest in Volume.]

13557. (Rev. T. WOOD ROBINSON, R.N.)—Find the chance of throwing all sixes in r throws with n dice, and deduce the number of throws that must be made with five dice that the chance of throwing all sixes may be even.

Solution by the PROPOSER.

Chance of throwing 1 six in 1 throw with n dice $n/1 \,.\, 5^{n-1}/6^n$,

" " 2 " 1 " " $[n(n-1)]/(1.2)\, 5^{n-2}/6^n$,

" " r " 1 " " $[n(n-1)\ldots(n-r+1)]/(1.2\ldots r)\, 5^{n-r}/6^n$.

To throw all sixes in 2 throws with n dice.

We may throw 0 and n, chance $5^n/6^n \,.\, 1/6^n$;

or ,, 1 and $n-1$, ,, $n/1 \,.\, 5^{n-1}/6^n \,.\, 1/6^{n-1}$,

... ...

Total chance $= 1/6^n \left\{(\frac{5}{6})^n + n/1 \,.\, (\frac{5}{6})^{n-1} + \ldots\right\} = 1/6^n \left\{1+\frac{5}{6}\right\}^n$

$= \left\{1-(\frac{5}{6})^2\right\}^n$.

To throw all sixes in 3 throws with n dice.

We may throw 0 and then n in two throws, chance $= 5^n/6^n \left\{1-(\frac{5}{6})^2\right\}^n$.

or 1 and then $n-1$ in two throws, chance $= n/1 \,.\, 5^{n-1}/6^n \left\{1-(\frac{5}{6})^2\right\}^{n-1}$,

... ...

Therefore total chance $= 1/6^n \left[5\left\{5-(\frac{5}{6})^3\right\}^n 5^n + n\left\{\square\right\}^{n-1} 5^{n-1} + \ldots\right]$

$= 1/6^n \left[1+5\left\{1-(\frac{5}{6})^2\right\}\right]^n$

$= \left[1-(\frac{5}{6})^3\right]^n$.

Therefore chance of throwing all sixes in r throws with n dice is

$$\left[1-(\tfrac{5}{6})^r\right]^n.$$

2. Let $n = 5$, and x be number of throws in order chance $=\frac{1}{2}$;

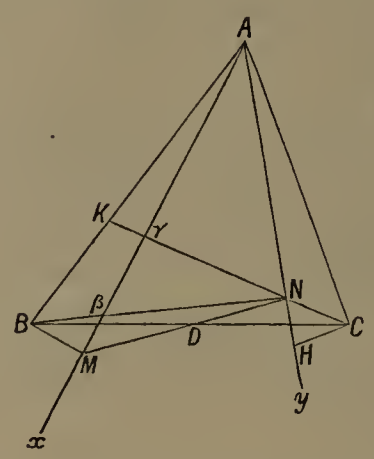
Then $$\left[1-(\tfrac{5}{6})^x\right]^5 = \tfrac{1}{2}.$$

$$\therefore\ (\tfrac{5}{6})^x = 1-1/\sqrt[5]{2}.$$

$$\therefore\ x = \left[\log\left\{1-1/\sqrt[5]{2}\right\}\right]/\left[\log 5-\log 6\right] = 11 \text{ nearly}.$$

13437. (Professor Bernés.)—Par le sommet de l'angle A du triangle ABC on mène deux isogonales quelconques Ax, Ay, et, par le milieu D de BC, on trace, entre ces deux droites, le segment MN partagé en D on deux parties égales. Les droites BN, CN rencontrant AM en β, γ, démontrer que les tangentes en B et C aux circonférences ABβ, ACγ se rencontrent sur AN.

Solution by H. W. Curjel, M.A.



Let the tangents at C and B to circles ACγ, ABβ cut AN in H, H′, and let Cγ cut AB in K.

Then $\angle$HCK $=$ $\angle$CAγ $=$ $\angle$KAH;

$\therefore$ $\angle$CHA $=$ $\angle$CKA $=$ $\angle$MBA,

for BM is parallel to CN.

$\therefore$ AH : AC = AB : AM.

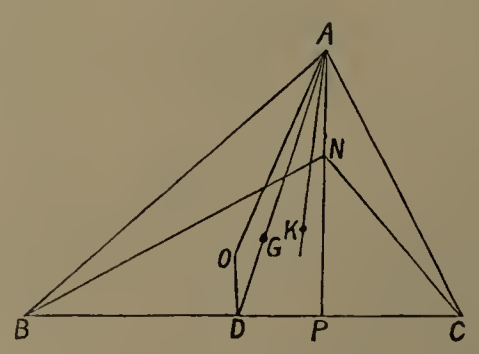
Similarly,

AH′ : AB = AC : AM;

therefore H and H′ coincide.

11339. (Professor Lemoine.)—L'orthocentre n'est jamais sur le cercle de Brocard, sauf dans le cas limite qui correspond au triangle équilatéral.

Solution by H. W. Curjel, M.A.



Since in any triangle the symmedian point K, and therefore the Brocard circle, lies within the circumcircle, it is obvious that in the case of an obtuse-angled or right-angled triangle the orthocentre N lies without the Brocard circle. Also, in an isosceles triangle, excluding of course the case of the equilateral triangle, in which N coincides with the circumcentre O and K and therefore with the Brocard circle, which reduces to a point, N is collinear with O, K, and the centroid G; and G, and therefore K, lies between O and N; therefore N lies without the Brocard circle; therefore the scalene acute-angled triangle alone remains to be considered. Let ABC be such a triangle, O lying within the $\angle$BNC (it clearly cannot lie on AN, BN, or CN). Let AN meet BC in P. Then, if B < C, O is within the $\angle$BAP, and G, and therefore also K, lies within $\angle$OAP; therefore both O and K lie within $\angle$BNP, which is acute (= C); therefore ON cuts the Brocard circle between O and N, and therefore N is without the Brocard circle in all cases except that of the equilateral triangle, and clearly also cannot be on it.

11857. (Professor Tissot.)—Du centre d'un cercle intérieur et bitangent à une conique, on abaisse une perpendiculaire sur une tangente à la courbe, et l'on considère les deux points de cette perpendiculaire qui se trouvent à une distance de son pied égale à la longueur de la tangente menée de ce pied au cercle. Trouver le lieu décrit par l'un de ces points, (1) lorsque la tangente est fixe et que le cercle bitangente varie, (2) lorsque, le cercle restant le même, le point de contact de la tangente se déplace sur la conique.

Solution by H. J. Woodall, A.R.C.S.

Let the centre (H) of circle be (hk), the equation to the conic be $x^2/a^2+y^2/b^2 = 1$, and P be (θ).

Distance HP $= \left\{(h-a\cos\theta)^2+(k-b\sin\theta)^2\right\}^{\frac{1}{2}}$.

Tangent at P is $x\cos\theta/a + y\sin\theta/b = 1$.

Length of perpendicular from H on this tangent

$$= \left(\frac{h}{a}\cos\theta+\frac{k}{b}\sin\theta-1\right)\Big/\left(\frac{\cos^2\theta}{a^2}+\frac{\sin^2\theta}{b^2}\right)^{\frac{1}{2}}.$$

"Length of tangent"

$$=\left[\left\{(h-a\cos\theta)^2+(k-b\sin\theta)^2\right\}(\cos^2\theta/a^2+\sin^2\theta/b^2)-(h\cos\theta/a+k\sin\theta/b-1)^2\right]^{\frac{1}{2}}$$
$$/(\cos^2\theta/a^2+\sin^2\theta/b^2)^{\frac{1}{2}}.$$

Points whose locus is required are the intersections of

$$(x-h)\,a\sin\theta = (y-k)\,b\cos\theta \ldots\ldots\ldots\ldots (1),$$

and $bx\cos\theta+ay\sin\theta-ab$

$$= \pm\left[\left\{(h-a\cos\theta)^2+(k-b\sin\theta)^2\right\}(b^2\cos^2\theta+a^2\sin^2\theta)\right.$$
$$\left.-(bh\cos\theta+ak\sin\theta-ab)^2\right]^{\frac{1}{2}} \ldots (2),$$

(1) when (h, k) are connected by the equation to the evolute, *i.e.*,

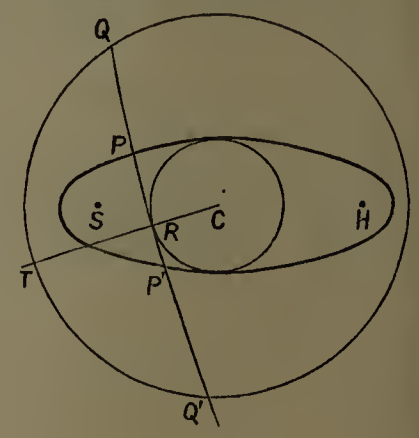
$$(ah)^{\frac{2}{3}}+(bk)^{\frac{2}{3}} = (a^2-b^2)^{\frac{2}{3}};$$

(2) when θ varies and must be eliminated between these equations.

[The rest in Volume.]

13507. (L. E. Reay, B.A.)—An ellipse is cut at P and P′ by a tangent to its minor auxiliary circle. Prove PP′ = HP ~ SP′.

Solution by the Proposer.



Let PP′ cut the director circle in Q, Q′.

$QR^2 = CQ^2-CR^2 = a^2+b^2-b^2 = a^2$;

$\therefore$ QR $= a$;

$\therefore$ QQ′ $= 2a =$ QP + PQ′;

$\therefore$ QP + PQ′ = SP + HP.

$QP \,.\, PQ' = QR^2-PR^2$

$= CQ^2-CR^2-PR^2$

$= a^2+b^2-CP^2$

$= CD^2 = SP \,.\, PH$.

$\therefore$ QP = SP (or HP),

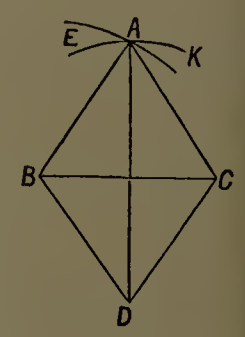
and PQ′ = HP (or SP).

Similarly Q′P′ = SP′.

Hence PP′ = HP ~ SP′ = HP′ ~ SP.

13592. (R. Chartres.)—Given two sides of a triangle ABC, and Σ(FA), construct the triangle, F being Fermat's point, so that Σ(FA) is a minimum.

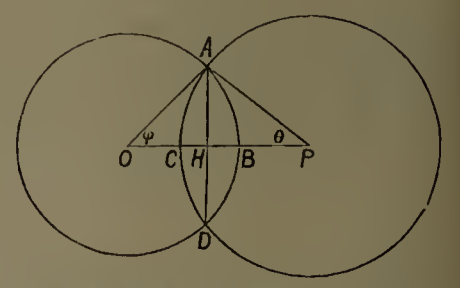
Solution by the Proposer.



Let BC be one of the given sides. Describe an equilateral triangle BCD on it. With D as centre and radius = Σ(FA) describe the arc EAK. With centre B and radius = the other given side, describe a circle cutting the other circle in A. Then evidently ABC is the required triangle.

13032. (M. Brierley.)—Two given circles, of centres O, P, intersect in A, B; required the length of the common chord AB when the ratio of the sum of the two lunettes O, P to the intercepted position of the two circles is as m to n.

Solution by Rev. J. L. Kitchin, M.A.



Let AD = 2AH = $2k$,

$\phi = \sin^{-1}k/r_1$, $\theta = \sin^{-1}k/r_2$,

r_1, r_2 be the radii of the circles.

Sector APD $= r_2^2\theta$,

therefore segment

ACD $= r_2^2\sin^{-1}k/r_2 - k(r_2^2-k^2)^{\frac{1}{2}}$,

and

ABD $= r_1^2\sin^{-1}k/r_1 - k(r_1^2-k^2)^{\frac{1}{2}}$.

$$\frac{2 \text{ lunes}}{2 \text{ segments}} = \frac{\pi(r_1^2+r_2^2)-2 \text{ segments}}{2 \text{ segments}} = \frac{m}{n},$$

$$\pi(r_1^2+r_2^2) = (m+n/n)\ 2 \text{ segments};$$

therefore $$[\pi n(r_1^2+r_2^2)]/(m+n)$$

$$= r_1^2\sin^{-1}k/r_1 + r_2^2\sin^{-1}k/r_2 - kr_1(1-k^2/r_1^2)^{\frac{1}{2}} - kr_2(1-k^2/r_2^2)^{\frac{1}{2}}.$$

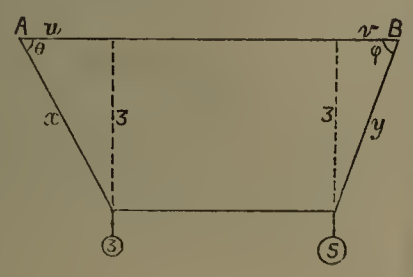
Expanding the dexter, and neglecting higher powers of k than the third,

this becomes $= \frac{2}{3}(1/r_1 + 1/r_2)k^3$; therefore

$$(2k)^3 = \frac{12n\pi(r_1^2+r_2^2)r_1r_2}{(r_1+r_2)(m+n)}; \qquad \therefore\ AD = \left\{\frac{12n\pi(r_1^2+r_2^2)r_1r_2}{(r_1+r_2)(m+n)}\right\}^{\frac{1}{3}}.$$

13565. (I. Arnold.)—The ends of a cord, 10 feet long, are fastened to two points, A and B, in the same horizontal line and 6 feet apart. From the cord are suspended two weights, one of 3 lbs., the other 5 lbs. The portion of the cord between the points of suspension is also horizontal, and 3 feet perpendicular distance from AB. It is required to find the lengths of those portions of the cord between A and B and the points of suspension of the weights.

Solution by the Rev. J. Cullen, B.A.



Let T be the tension of the horizontal portion of the string.

$$T = 3\cot\theta = 5\cot\phi,$$

$$u = 3\cot\theta, \quad v = 3\cot\phi.$$

Therefore $u/v = 5/3$.

Also $6-(u+v) = 10-(x+y)$,

and $x = (9+u^2)^{\frac{1}{2}}$, $y = (9+v^2)^{\frac{1}{2}}$.

Hence we have

$$20v^3+43v^2-12v-45 = 0,$$

There is only one real root $= \cdot 953$;

therefore $y = 3\cdot147$ ft., $x = 3\cdot393$ ft.

13582. (Editor.)—The axes of an ellipse are 10 and 20; find the mean length of all the radius-vectors drawn from (1) the centre, (2) the focus.

Solution by E. P. Barrett, B.A.

(1) The mean value M

$$= \frac{1}{a-b}\int_b^a r\,dr = \frac{1}{a-b}\,\frac{a^2-b_2}{2} = \frac{a+b}{2} = 7\tfrac{1}{2}.$$

(2) In this case M

$$= \frac{1}{2ae}\int_{a(1-e)}^{a(1+e)} r\,dr = \frac{1}{2ae}\,\frac{a^2(1+e)^2-a^2(1-e)^2}{2} = a = 10.$$

[The rest in Volume.]

QUESTIONS FOR SOLUTION.

13631. (The late Professor Sylvester, F.R.S. Jan. 31, 1897.)—Show, if ρ is any irrational p^{th} root of unity (p being a prime number), the sum of the $(p-1)$ values of $1/\{(1-\rho)(1-\rho^2)\}$ is equal to

$$\{(1-p)(p-11)\}/24.$$

13632. (Professor E. Lemoine.)—Soit un triangle ABC, soit K un point de son plan; AK, BK, CK coupent respectivement BC, CA, AB en α, β, γ. Par α, β, γ je mène des parallèles respectivement à CA, AB, BC qui coupent AB, BC, CA en ν, λ, μ et des parallèles à AB, BC, CA qui coupent CA, AB, BC en μ_1, ν_1, λ_1. On sait que Aλ, Bμ, Cν concourent en un point que j'appelle ω et Aλ_1, Bμ_1, Cν_1 en un point que j'appelle ω_1. (1) Déterminer K de façon que ω et ω_1 soient sur le cercle circonscrit à ABC. (2) Trouver le lieu de K lorsque la conique A, B, C, ω, ω_1 est une hyperbole équilatère. (3) Dans ce cas quel est le lieu du centre de cette hyperbole?

13633. (Professor Crofton, F.R.S.)—If z is a function of x, y which satisfies the condition $x(dz/dx) - y(dz/dy) = az$, show that $d^2z/(dx\,dy)$ also satisfies it.

13634. (Professor Neuberg.)—Connaissant les centres α, β, γ, δ des cercles circonscrits aux triangles BCD, ACD, ABD, ABC formés par quatre points A, B, C, D, trouver ces points A, B, C, D.

13635. (The late Professor Wolstenholme, M.A., D.Sc.)—On the sides of a given triangle ABC are erected equilateral triangles aBC, a'BC, &c.; A, a being on the same side of BC, A, a' on opposite sides of BC, and similarly for b, b', c, c'. It is well known that Aa = Bb = Cc, Aa' = Bb' = Cc'; but prove the following properties:—(1) Aa, Bb, Cc are each equal to three times the difference of the semiaxes of the maximum ellipse inscribed in the triangle ABC. (2) Aa', Bb', Cc' are each equal to three times the sum of the semiaxes of the maximum inscribed ellipse; and to the altitude of the maximum equilateral triangle circumscribed about the given triangle. (3) The straight lines bisecting the angles between the three pairs Aa, Aa', Bb, Bb', Cc, Cc' are all parallel to the axes of the maximum inscribed ellipse. In fact, if G be the centre of this ellipse, A′, B′, C′ the points of contact (the mid-points of the sides), and if on the straight line drawn through A′ at right angles to BC be taken points α, a', such that $\alpha a'$ is bisected in A′, and is equal to the diameter parallel to BC, Gα is parallel to Aa and $= \frac{1}{3}$Aa; Ga' is parallel to Aa' and $= \frac{1}{3}$Aa'; and, by the well-known construction for the axes of an ellipse from a given pair of conjugate diameters, Gα is equal to the difference, and Ga' to the sum of the semiaxes, and Gα, Ga' are equally inclined to the axes.

13636. (Professor Sanjána.)—Prove that

$$\int_0^{\frac{1}{2}\pi}\int_0^1 \tan^{-1}\frac{2m\cos\theta}{1-m^2}\,dm\,d\theta = \tfrac{1}{4}\pi^2 - 2\log 2,$$

where m is less than unity.

13637. (Professor H. Langhorne Orchard, M.A., B.Sc.)—Sum to n terms the series $S = -6+24-60+120-210+336-$.

13638. (Editor.)—Find the value of the *determinant*

$$\begin{vmatrix} 1, & \tan A, & \sin 2A \\ 1, & \tan B, & \sin 2B \\ 1, & \tan C, & \sin 2C \end{vmatrix}.$$

13639. (D. Biddle.)—If P be a point on the circumcircle of ABC, an equilateral triangle of side a, and if l be its perpendicular distance from the Simson-line drawn in respect of it (in the case of an equilateral triangle, any such Simson-line is equidistant from P and O the centre), prove that PA, PB, PC represent in length the three roots of the cubic equation $x^3+qx+r=0$, when $q = -a^2$ and $r = \pm 4R^2l = \pm\frac{4}{3}a^2l$. [All cases irreducible by Cardan's method—that is, all cases having three real roots—are included herein; for, if the value of q be supposed fixed, r can range from 0 to $\pm 2(-\frac{1}{3}q)^{\frac{3}{2}}$, whilst the three roots of the equation respectively range from 0 to $(-\frac{1}{3}q)^{\frac{1}{2}}$, from $(-q)^{\frac{1}{2}}$ to $(-\frac{1}{3}q)^{\frac{1}{2}}$, and from $(-q)^{\frac{1}{2}}$ to $2(-\frac{1}{3}q)^{\frac{1}{2}}$; two of them being of one sign, and the third of the opposite. But the finding of P, when a and l alone are given, would appear to involve the trisection of an angle.]

13640. (Rev. T. C. Simmons, M.A.)—Discuss the truth (or otherwise) of the following remark made by Liagre (*Calcul des Probabilités*, p. 328) with respect to competitive firing at the centre of a circular target:—"Tout le monde sent que, si deux concurrents tirent chacun deux balles, et que les écarts du premier soient représentés par 1 et 3, ceux du second par 2 et 2, ce dernier mérite le prix."

13641. (W. J. Dobbs, M.A.)—The normal at P to a parabola (vertex A) meets the curve again at Q. The straight line drawn through A perpendicular to AQ meets the tangent at P in R. Prove that the locus of R is a straight line, and that QR is divided by the axis in the ratio 2 : 1.

13642. (H. W. Curjel, M.A.)—Find the equation to the surface described by a point the sum of whose distances from three fixed points is constant.

13643. (R. Knowles, B.A.)—Prove that

$$1+(n+1)x+(n+2)(x^2/1.2)+(n+3)(x^3/1.2.3)+\ldots = (x+n)\epsilon^x-(n-1).$$

13644. (W. E. Jeffares, B.A.) — P is a point on the surface of the sphere from which tangent arcs are drawn to two equal non intersecting small circles, such that the product of the tangents of halves of these arcs is equal to the square of the tangent of the arc drawn from the point M midway between the centres C and C′ of the two circles. Let β be the arc MP, and θ the angle between MP and CC′. Prove that

$$\tan^2\tfrac{1}{2}\beta = A\cos^2\theta + B\sin^2\theta,$$

where A and B are functions of the radius of the circles and of the distance between the centres which it is required to determine.

13645. (Professor Shields.) — Three newsboys A., B., and C. each bought a lot of *The Educational Times* to sell on their respective streets. A.'s street was $101\frac{3}{7}$ rods long, B.'s $304\frac{2}{7}$, and C.'s street was $507\frac{1}{7}$ rods long. They all start at the same time, and *each* travelled a part of the way at the *same rate* of speed per minute; and, after each had sold papers and rested $3\frac{4}{7}$ minutes, they all travelled to the end of their respective streets at the *same rate* of speed per minute, and sold out, when it was found that each had consumed the *same* length of time, viz., 1 hour and 45 minutes each, including the $3\frac{4}{7}$ minutes' rest each had on the way. They sold all their papers for the total sum of \$2. 93c. and 3 mills. A. gained as much per cent. on his lot as he had copies, B. gained $\frac{3}{4}$ as much per cent. on his lot as A. did, and C. lost 9 cents and *one* mill on the cost of his lot. Their total *net* gain was $46\frac{13}{20}$ per cent. How far did each party travel before, and also after, resting; what rates of speed per minute did they travel before, and also after, resting; and what was the cost and selling price of each copy of their papers?

13646. (Robert W. D. Christie.)—Every triangular equals the sum of three others, and therefore every integer equals the sum of $3n$ triangulars.

13647. (I. Arnold.)—From a given point P outside a given triangle ABC to draw a line bisecting the triangle.

13648. (R. F. Davis, M.A.)—Resolve 1,000,000,000,004 into factors.

13649. (H. J. Woodall, A.R.C.S.)—Looking through my home-made telescope at Jupiter, I see it with three or four "wings"; but, when looking at Venus, the disc is quite surrounded by these appendages. What optical peculiarity of the glass, or what defect in the mounting does this point to?

13650. (The late Morgan Brierley. Obit Sept. 8, 1897.)—Given

$$a^2dx^4 + y^2dy^4 = b^2dy^2dx^2 + 2ay\,dy^2dx^2,$$

to find the relation of x to y.

13651. (R. F. Muirhead.)—In the array

$$\begin{matrix} a_1 & b_1 & c_1 & d_1 & e_1 \\ a_2 & b_2 & c_2 & d_2 & e_2 \\ a_3 & b_3 & c_3 & d_3 & e_3 \\ a_4 & b_4 & e_4 & d_4 & e_4 \end{matrix}$$

there are 40 determinants which can be formed by suppressing 2 columns and 1 row. Show that six of these can be chosen such that their vanishing involves the vanishing of all the others. Extend this to an array of p columns and q rows, and determinants of the order r, where r is less than either p or q.

13652. (J. Woodcote West.)—Sum the series $\square_1 + \square_2 + \square_3 +$ &c. to n terms, where $\square_n$ represents the nth square number of the form

$$\alpha(\alpha+1)/2.$$

13653. (J. C. Wasson.)—A, B, C are the vertices of a triangle inscribed in a circle. A′, B′, C′ are three other points on the circle, such that arc AA′ + arc BB′ + arc CC′ = 0 or a multiple of 2π (the algebraic sum of the arcs being taken). Then the Simson's lines of the points A′, B′, C′, with respect to the triangle ABC, meet in a point.

13654. (Salutation.)—The triangle ABC has the sides AB, AC bisected in D, E, respectively. DE is produced to F, such that EF = DE, and FC is joined. Again, the triangle CEF has its sides CE, CF bisected in G, H respectively. GH is produced to I, such that HI = GH, and IF is joined to form a third independent triangle. The process being continued *ad infinitum*, (1) show that the centroids of the system of triangles are collinear; (2) find the distance apart of the extreme centroids; and (3) find the centre of gravity of the entire system.

13655. (W. C. Stanham.)—a and b are the semiaxes of an ellipse; $c^2 = a^2 - b^2$, $d^2 = a^2 + b^2$. From a point T on the director circle the tangents are drawn, and the corresponding normals meet at N. Show (1) that N lies on the curve

$$b^2(c^2 - dr)/a^2(c^2 + dr) = \tan^2\theta$$

(the centre and major axis being the pole and initial line); (2) N lies within the evolute of the ellipse; (3) if the tangents to the ellipse at the feet of the other two normals from N meet at T′, T′ lies outside the rectangle formed by the tangents at the vertices of the ellipse, and between the tangents at opposite vertices.

13656. (Rev. T. Mitcheson, B.A.)—Let ABC be a triangle whose side BC is produced to D, and bisect BAC and ACD by lines meeting in E. Describe a circle about ACE, and let it cut BC in F. The bisector of FBA passes through the centre of the circle.

13657. (W. H. Blythe, M.A.)—Take six points A, B, C, D, E, F, and let a point P move so that the anharmonic ratio

$$P[ABEF] = P[CDEF].$$

Prove (by use of Euclidean geometry, properties of anharmonic ratios, or projection) that, if any point E′ be taken on the curve, and AE′ meets the curve in H′, and CE′ meets the curve in G′, and BG′ meets the curve in F′, then D, H′, F′ are in one straight line, and if P be any point on the curve the anharmonic ratio P[ABE′F′] bears a fixed ratio to P[CDE′F′.]

[*Definition.*—Take nine points A, B, C, D, E, F, G, H, O, so that the points in the following scheme, read by rows or columns, lie in straight lines:—

A, B, O,
E, G, C,
H, F, D.

Let a point P move so that, if the straight lines AP, BP, CP, DP, EP, FP cut any transversal in points a, b, c, d, e, f, the ratio compounded of $ab : af$, $cf : cd$, $ed : eb$ is constant. Then P moves in a cubic curve.

Comparing Salmon's *Higher Plane Curves*, p. 141, we find this represents any cubic passing through the nine points.

We may denote this ratio by

P (ABCDEF) or P ($abcdef$).]

13658. (Rev. W. A. Whitworth, M.A.)—If unity be divided at random into n parts, and the parts be then arranged in order of magnitude, beginning with the smallest, the expectation of the rth part is $(H_n - H_{n-r}) \div n$, where H_n denotes the sum of the reciprocals of the first n natural numbers.

13659. (James Stormonth.)—In how many ways can it be proved that the ratio of the circumference to the diameter of a circle is as 3·1416 : 1 ?

NOTICE TO CORRESPONDENTS.

It is requested that all Mathematical communications should be sent to

D. Biddle, Esq., Charlton Lodge, Kingston-on-Thames.

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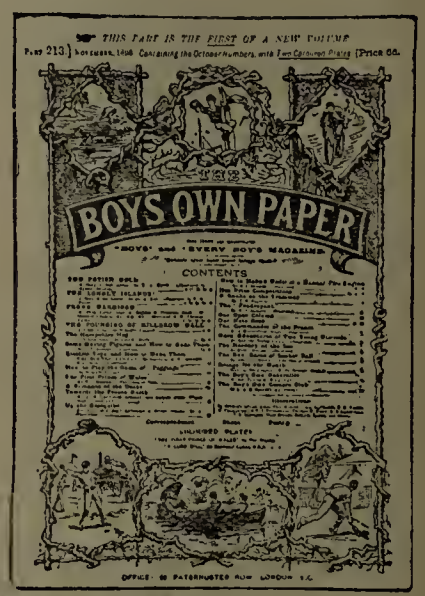

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The Educational Times.

New Year at the Universities.

The first term of a new academic year was opened in the course of October at the various British and Irish Universities. In most instances the occasion was one of quiet and decorous resumption of work, preceded here and there by a few stimulating words of a more or less formal character. At Cambridge the retiring Vice-Chancellor has given an account of his stewardship; Dr. Hill, of Downing, succeeds to the office vacated by Mr. Charles Smith; and Mr. Chawner takes the opportunity of reminding us that the University is still in need of a more liberal endowment. Dr. Ward at Owens College, Mr. Acland at Bangor, and Professor Sidgwick at Aberystwyth—each with remarkable eloquence and felicity—have helped to inaugurate the new session at Victoria and in Wales. Dr. Sidgwick, indeed, in his lecture on "The Pursuit of Culture as an Ideal," gave utterance to words as wise and worthy of consideration as any which we have recently seen on the subject of mental, and especially of literary, culture. He reminded his hearers how John Henry Newman set before the world an ideal of University education in which all students, whatever else they learnt, should give the first place to the study of philosophy—universal knowledge of things mundane and divine, sought as its own end, in disregard of all sordid utilities. In defending this ideal, he referred contemptuously to some bygone *Edinburgh Reviewers* who "wish one student of a University to dedicate himself to chemistry, and another to mathematics." "Now," says Newman, "if half a dozen systems of education are to go on on the same spot, unity of place is but an accident, and I do not see what is the use of a University at all."

If Newman was right in his idea, all the rest of the world have been working on wrong lines from that day to this. But Newman himself had a truer notion of what a University rightly means than the sentences above quoted would seem to imply. "When," he says, in the same volume from which Dr. Sidgwick was quoting, "when a multitude of young persons, keen, open-hearted, sympathetic, and observant, as young persons are, come together and freely mix with each other, they are sure to learn from one another, even if there be no one to teach them. The conversation of all is a series of lectures to each, and they gain for themselves new ideas and views, and fresh matter of thought, day by day." And Dr. Sidgwick, in full agreement with these latter ideas of Newman, added his own "last words" to the students at Aberystwyth:—

> This informal mutual education of students will always be an important factor in the work of the University; and it is one on which the thoughts of any academic teacher, conscious of the limitations and defects of his own labours in the services of culture, will always gladly dwell. This, then, is my last word to the younger part of my audience: that it rests largely with themselves, and with the use they make, not only of hours of work, but of hours of leisure, to determine whether they wish to make the gifts of culture their own. And the burden that this lays on them is not a heavy one; it is not—as so many moral precepts necessarily are—an injunction to endure and refrain. It is simply a direction to live in the fullest manner those higher modes of mental and social life from which our finest human pleasures most strictly and spontaneously spring.

It is not with a desire to draw any invidious comparison that we turn aside to consider the extraordinary condition of affairs amidst which the new academical year begins in the University of St. Andrews. Our readers are familiar with the conditions under which the St. Andrews Senate, the Universities Commissioners, the courts of law, and the Privy Council, all being practically at one on the question of incorporating the University College of Dundee as a medical and scientific College, have been obstinately withstood by a majority of the University Court. Whatever may be the merits of this dispute—and we do not by any means assume it to be a one-sided question—it is plain that the continuance of the existing state of things is little short of a public scandal. We refer in our "Summary of the Month" to the action which has been taken by the University Court against Principal Donaldson, which, if it cannot be reasonably explained, must be regarded as something very like an outrage upon an honourable scholar of European reputation and distinguished service. We have no hesitation in saying that the majority of the University Court, which at this moment seems to be a majority of one, owes to the nation at large a full and candid account of the reasons by which its past and present action has been governed. We invite this explanation all the more earnestly because it is well known that the sympathy originally felt in some quarters with an ancient literary University objecting to the incorporation of a modern college has been pretty well exhausted by the excessive prolongation of the struggle, and by the obstinate renewal of litigation in half a dozen hopeless forms.

Latin Verses.

Mr. Lyttelton, of Haileybury, has addressed, in part to scholars and in part to the busy workaday world—*urbi et orbi*—a studied and reasoned reply to the question: "Are we to go on with Latin Verses?" This little book,

published by Messrs. Longmans, is in one sense a general plea for literary work in our schools, though the author's principal aim has been to urge the continued use of Latin verse as a secondary-school subject. No one will say that the defence of this time-honoured exercise in our English curriculum is superfluous, for the tendency of the day is to restrict the teaching of the ancient classics, even in classical schools, and to devote the time thus redeemed to something more practical and serviceable. Greek, as a compulsory subject, has, in many instances, gone by the board. Latin versification has been thrown after it by more than one or two of those whom we might have expected to be its most faithful guardians. The question for literary schoolmasters is to know where they ought to make their stand, for it is manifest that such of the moderns and technicals as are endowed with greatest confidence and fewest misgivings would not be sorry if they could sweep away the last vestige of compulsory Latin from our examinations and schools. The Grant Age of secondary education has begun, and there is some reason to fear that, when local authorities take up the prosaic business of distributing grants to schools with prescribed curricula, they will often be disposed to allow no credit at all for languages which are commonly reputed to be "dead."

Mr. Lyttelton has a good deal to say upon the practical utility of Latin. He confines himself mainly to the writing of verse in classical schools, for, of course, it is only in such schools that the question of abandoning verses can arise. But some of his arguments are of wider application; and, in any case, the total abolitionists will have to face the very pertinent fact that without Latin we can have no learned professions—no lawyers, or doctors, or preachers likely to attract intelligent hearers, or men of science capable of dealing with a scientific theory. If we could surmount this difficulty by translating every Greek and Latin book into plain English, and undertaking to produce our learned men, our chemists and naturalists, even our schoolmasters and librarians, by an exclusively English process, taking all our foreign texts at second hand, and all our nomenclature for granted, we should still find ourselves in a very awkward predicament, owing to the fact that it is really impossible to know our own mother English, or to speak it in any degree of delicacy, without knowing the Latin with which it is so largely infused. If we had not heard it with our ears and seen it with our eyes, we might have been utterly sceptical as to the existence of a serious argument in favour of omitting Latin altogether from the time-tables of secondary schools.

But the question as to Latin verses is of a totally different character. It is a question of less or more. If time is needed for other subjects, even when Greek has been abandoned, no doubt verse-making must be sacrificed before prose-writing or construing. We should all be agreed on this, and the only point to be settled is whether, in the case of a particular boy, the new subject to be introduced would be more serviceable than the subject which it is proposed to drop. The problem arises in comparatively few cases—in endowed and private schools which prepare for the Universities, and in preparatory schools which prepare for the public classical schools. The most practical objections, as Mr. Lyttelton reminds us, are that there is really no time nowadays for versification; that the subject is not suitable for teaching in large classes; and that the day has gone by when "finish" in scholarship was looked for and valued. So far as the last objection is concerned, Mr. Lyttelton simply denies it, and in that respect we are entirely at one with him. The meaning of "finish" in scholarship is taste, style, literary cultivation; and there can be no arguing with a man who tells us that these qualities are less valuable to-day than they were a generation ago. Moreover, the claim for verses does not rest only on their education of the taste, but it also has regard to "the unrivalled mental gymnastic and training in accuracy and imagination which are afforded by them at all stages of a boy's school career."

In a word, the writing of Latin verses, by a boy who is far advanced in the study of Latin, is a form of intellectual training which no man of experience or perspicacity will be likely to undervalue. It is available for a comparatively small number of boys, but for them it is so valuable from a literary point of view that it ought not to be dispensed with except for the sake of some better form of training. To our mind the whole matter resolves itself into a comparison between various forms of mental culture, whereof the making of verses is unquestionably one.

NOTES.

Since the Duke of Devonshire's speech at Giggleswick, the deliberations of the Joint Training Committee have become of more than academic interest. It seems clear that the Government are prepared to recommend grants towards the training of teachers, and the Report of this Committee will no doubt afford a valuable guide as to what schoolmasters mean by training, and will prevent the Government from frittering away its money on imperfectly equipped training schools. The Committee met at Birmingham in July, and in London last month, and it is to meet at Oxford this month. We only hope that this rapid movement will not result in a want of coherence in the Committee's report. In any case this report will be awaited with interest, and we hope it will be published before the end of the year, or, at any rate, before the promised Bill is introduced.

"A large amount of money is at the present time wasted on scholarships awarded to those who do not need the pecuniary assistance given." These words were uttered by the Bishop of Hereford at the recent Church Congress. There is no doubt of their truth, not only in reference to University scholarships, of which the Bishop was speaking, but also in reference to the many hundreds of scholarships which are now given by County Councils and other bodies to be held during school life. The difficulty is to find a remedy. The imposition of a poverty test has two drawbacks. It tends towards making scholars a despised class, as the former University sizars were; and many parents would resent a close inquiry into their private means. The Bishop suggested that the value of scholarships should be lowered to about one-half of their present value. We would go further than this, and say that a scholarship should be merely a prize of honour, with a trifling money payment attached for the purchase of books, and that the money thus set free should be given, on the results of the examination, to those candidates who made and justified a special appeal for financial help. In this way there would be scant opportunity for abuse, and the money would go to those who needed it, and who had come up to scholarship standard in the examination.

The examinations started by the London Chamber of Commerce in order to encourage commercial education have not been an unmixed success. And yet the feeling is continually growing that great and immediate improvement in this branch of our education is needed. In the recent movement towards technical education the question of commercial training has been partly overlooked, though, of course, such training may receive help from the Inland Revenue grants. The Chambers of Commerce have recently shown great interest in the question, and one County Council, at any rate, has appointed a special Inspector for this work, whose duty is to help in organizing commercial education as a special branch of secondary-school and technical-institute work. For this purpose he has visited the commercial schools of France and Germany. There is no need here for the "utilitarian sneer." Commercial education may be real education. We need, as Mr. Organ said the other day, the establishment of three special types of schools: the first to take boys leaving the elementary schools at the age of twelve, for a three years' course; the second for the son of the merchant, who would remain at school till seventeen or eighteen; the third, for advanced specialists—such a school as is now established under the name of the London School of Economics.

Professor Mahaffy has snubbed the *Times* for permitting a criticism of his address at Birmingham before the full text of his discourse is at the disposal of the public. We will not, therefore, venture further than to say that the Professor's language, as reported, is of a very melancholy turn, and that, while blaming us all round for being worse than we were thirty years ago, he does not give us any hint how to improve. Perhaps he will kindly send us the full text when it is printed. We should like to know what percentage of the Professor's pupils have become remarkable criminals, and how George Meredith is scrappy, sensational, trivial, and ephemeral. We want more proof that the boys coming up for matriculation to Trinity College are deteriorating in quality. In the meantime we must console ourselves with the admission that "in a very poor and defective system there might be great teachers and brilliant pupils."

Dr. Findlay's letter in the *Times* will have been read by all who are interested in the problem of delimitation between elementary and secondary education. Dr. Findlay finds the key to the position in this statement from the Report of the Royal Commission:—"Education has to consider the life that the child has to live, with the express purpose of helping him to live it." This means that the leaving age of a child is the basis of delimitation. Practically the dividing line is one of convenience only; but it is now admitted that the child who is likely to leave school at the age of twelve to become a wage-earner needs a totally different education during the years he is at school from that given during the corresponding years to the child destined to remain till fifteen or eighteen. Of the various grades of schools required we agree to call that which trains the wage-earner elementary, and that which trains the man paid a monthly or quarterly "salary" secondary. The difficulty is made greater by the fact that elementary and secondary schools are not likely at present to be under the same control. "Sooner or later," said Dr. Percival, at the Church Congress, "secondary and primary education must be coordinated and brought under one common administrative system." But that time is not yet.

The letter which the Headmaster of Loretto School has addressed to the *Times* on the subject of Athletics makes a very valuable distinction between "athletic" and "physical" training. "Nothing that money can buy," says Mr. Almond, "comes anywhere near in value to robust, vigorous, and joyous health." This is quite true, and we do not for a moment suggest that physical training is being overdone in our schools. On the contrary, as we hinted in a leading article last month, the prevailing spirit of publicity and specialization in games is tending towards the sacrifice of the physical training of the whole school for the sake of the athletic training of the few specialists whose deeds will be chronicled in the papers and emblazoned on the school walls. Loretto is well known for the physical robustness of its *alumni*, and Mr. Almond's opinion on the matter is valuable. He says: "To implant an unconquerable desire for regular daily exercise in all weathers is, to my mind, one of the first duties of a true educator." And again, "Resist, on the one side, the spirit of athleticism, and, on the other, the inordinate amount of sedentary work which is the too frequent result of the competitive examination system."

There is a growing interest in the question of co-education in England, and a desire to make experiments in the joint education of boys and girls. Certainly nobody could accuse us of rashness in this respect. For more than half a century boys and girls have been taught together in America with the happiest results; and in Scotland, where there is in education no respect of persons, the same custom prevails. But in England it is only with the utmost caution that the plan has been tried in a few isolated instances. In the Chiswick High School the experiment was begun and carried on with great success by Miss Alice Woods, now Principal of the Maria Grey Training College. Miss Woods is an enthusiast on the subject, and some of her views may be gathered from a little pamphlet issued by the Women's Co-operative Guild, and reprinted from the *Co-operative News*. Her opinion is that boys and girls alike gain a great deal by natural relationship in work and play, and that whilst the girls gain in courage, sense, and self-reliance, the boys become gentler and more conscientious; and both learn to understand and respect each other in a new way. At Keswick, during the last month, the foundation-stone has been laid of a school similar to the one at Chiswick, and the progress of the work will, doubtless, be watched with keen interest.

In a somewhat different sphere the experiment of co-education is being tried at Battersea, in the Secondary Day School attached to the Battersea Polytechnic. The Principal, Mr. Sidney H. Wells, writes a very interesting account of the work in the volume of "Special Reports" recently issued by the Education Department. The boys and girls are drawn from the upper standards of the Board Schools, and vary in age from thirteen to fifteen years. Very little difference is made between the boys and girls, but the latter have a special mistress to superintend their work, and sit at special desks in the classes. Girls, however, share in the games, gymnastic displays, and entertainments, and sit on committees, and are engaged on the staff of the school magazines. Generally speaking, the girls are found to have less initiative than the boys, and to be slower, though neater, in their work. They take a good position in the form work, but,

whilst in English subjects and literature they are stronger than the boys, the latter have a distinct advantage in science and mathematics. "The net result of mixed classes," says the Principal, "has been to stimulate competition, to improve the order, and to raise the general tone." This is a good deal to say, and speaks well for the success of the undertaking.

Some time ago the Canadian Minister of Education addressed a series of questions to the School Inspectors, in order to test the moral and intellectual condition of the pupils and teachers, and to compare the present condition of affairs with that existing twenty years ago. It seems from their reports that truancy is no longer a popular pastime with Canadian youth, and that fighting is going out of fashion. "Twenty years ago," says one inspector, "school fights were common, but games have now taken their place in the school grounds, and the doughty knights of old with 'chip on shoulder' have disappeared." Corporal punishment is said to be very rare, and the prevailing school offences, according to one inspector, are "cigarette smoking and bad language!" Yet the teachers seem to set a virtuous example in respect to smoking, for in reply to the somewhat personal question, "Do you use tobacco?" only six out of one hundred teachers in rural schools confessed that they did. With regard to religious instruction it is interesting to note that though most of the teachers belong to a Christian church, and the schools are opened and closed with religious exercises, no direct religious teaching is given in the schools, and the inspectors are unanimous in tracing to this fact the peaceful state of affairs which now exists. Roman Catholic and Protestant children sit side by side on the same benches, and there is the happiest feeling between them. It is only out of school that religious difficulties arise.

A German classical scholar, Dr. J. Morsch, has published a monograph under the title of "De Varrone in Georgicis a Vergilio Expresso," in which he discusses the tendency to "imitation" in ancient and modern writers. He suggests that the Roman poets unscrupulously "exploited" not only their Greek predecessors, but also their own countrymen. This startling assertion the learned author illustrates by a number of passages from Virgil's "Georgics," which, he says, are largely based on the works of Varro. Dr. Morsch further points out the noteworthy fact that Varro had a vague notion of the theory of bacilli, and of infection by miasmatic influences. The treatise is written in excellent Latin, and has been issued on the occasion of the one hundred and fiftieth anniversary of the foundation of the "Kaiser Wilhelm" Realgymnasium at Berlin. Who will speak up for Virgil?

SUMMARY.

THE MONTH.

On October 7, the Lord President of the Committee of Council on Education laid the foundation of a chapel, given by Mr. Morrison, M.P., to Giggleswick School. The Duke said that our secondary schools ought to be the mainstay of technical and practical instruction. They ought to have thoroughly trained and efficient masters, and the first requisite of the new secondary organization was a provision to raise the qualification of teachers.

That was a matter which one might well have hoped the teachers would have taken up and dealt with, both in their own interest and for the credit of their profession, for it was something very little short of a scandal that parents should be tempted, as he was afraid in too many instances they were, to waste their own money and, what was far more important, the time and future opportunities of their children, in sending them to inefficient schools. He was told, and he hoped truly, that the Universities, the College of Preceptors, and other agencies were taking this matter up. But as yet it was unfortunately true that voluntary agency had failed to establish a satisfactory test by which the efficiency of our secondary schools might be guaranteed. The efforts of those who were moving in this matter required to be seconded more than they hitherto had been by public opinion and by voluntary efforts; and, failing that, it appeared to be a matter in which the State, or rather authorities to whom powers should be relegated by the State, might very well be called upon to interpose.

On the following day, the Duke opened a new Technical College at Darlington, and in the course of his address declared that a new Secondary Education Bill would be "very speedily" introduced into Parliament. The Bill of 1896, he said, had been described as revolutionary:—

Revolutionary or not, I hope, at all events, that part of it which referred to secondary education will very speedily reappear, and not only reappear, but that some of the difficulties, some of the controverted questions connected with elementary education, have been, for a time, at all events, disposed of, and that it will reappear with some of its revolutionary provisions extended. . . . The people of this country have now discovered that they possess intellects which are capable of cultivation to the highest extent, even the minds of those who are engaged in daily manual labour; and the people, having the power to decide, are not likely to relapse, or to allow their descendants to relapse, into that condition of ignorance, whether contented ignorance or otherwise, which existed thirty years ago.

The Lord President remarked that England had some of the best and some of the worst secondary schools in Europe, and expressed a hope that, by conferring on local authorities powers of inspection and examination, it might be possible to stimulate and improve the good schools, "and, by giving adequate warning to parents, . . . either to extinguish the bad or to compel them, under pain of extinction, to render themselves efficient."

Owens College, Manchester, has received benefactions from the Whitworth estate and otherwise, amounting to over £65,000. We quote from the *Manchester Guardian* a very interesting retrospect of the education of women at Owens during the past fourteen years:—

In 1883 only two women, the first to take up work for a Victoria degree, attended classes in college, but gradually one class after another has been opened, and now almost all the work, except some elementary classes, is done, as it should be, in the College itself. The gradual manner in which the change was carried out has enabled the experiment to justify itself at every step. For some time there was a difficulty about instruction in science, laboratories as well as classrooms being necessary; but that has now been overcome, and the women students have full access to the excellent chemical, physical, and biological laboratories. The evening classes, too, are open to women. Further, almost all prizes, scholarships, and fellowships connected with the College have been generously offered for the competition of the women students. Women graduates take their place among the Associates of the College, thus sharing indirectly in the government of the College. In lighter matters, too, they take part in the corporate life of the institution, for though the women have their own debating and other societies, apart from the men's, joint meetings are not infrequently held by invitation of one side or the other, and the subject of the moment is debated by the united societies. The change in academic arrangements has been accompanied by a change in the character of the students. Though there were always a few who gave their whole time to study, the majority attended one or perhaps two classes only. Now, out of 102 students last session 67 were studying for the degrees of the Victoria University, and a few for London degrees. Thus the majority are now serious students.

Mrs. Fawcett spoke at the opening of the session at Bedford College, on October 7, and referred to the increased Government grant and to the number of students, which was the largest on record. In regard to the refusal of Cambridge to remove the disabilities of women at Cambridge, Mrs. Fawcett said:—

Notwithstanding this defeat, she was certain that the general drift of opinion was in favour of the removal of the educational disabilities of women. As to the proposal for a separate university for women, sho regarded it not only as useless but distinctly mischievous. Separate

colleges, however, they must have. It was represented at Cambridge that they desired young men and women to live together in the same colleges. They desired nothing of the kind, but that was no reason for the creation of separate machinery for testing the knowledge which a university afforded. A separate university would involve waste of time, money, and energy. In the whole of the United Kingdom there were nine universities which opened their degrees entirely to women —in England, London, Victoria, and Durham; in Scotland, the four ancient Scottish universities; in Wales, the Welsh University; and in Ireland, the Royal Irish University. Did those who advocated a separate university want different subjects taught, or the same subjects taught differently? She remembered that one professor, on being asked if he would admit ladies to his classes, replied: "Yes, they may come; but I can't make my subject amusing for ladies." They did not want that kind of thing. They wanted to be taught seriously and in the best manner. Teaching might be adapted for varying needs, but the cleavage line was not sex, but individuality.

The bare majority of the St. Andrew's University Court has taken the extraordinary course of appointing a Committee to inquire into the past and present action of the Vice-Chancellor, Dr. Donaldson, as Principal of the University. The Principals of St. Mary's and Dundee University Colleges, with fifteen professors, have presented the following address to Principal Donaldson:—

We, the undersigned Principals and Professors in the University of St. Andrews, observe with pain, and with regret for the dignity of the University, that the Court has appointed a committee, consisting of Sir Ralph Anstruther, Bart., the Rev. Mark L. Anderson, D.D., and others, to consider your past and present action as Principal of the University. We consider such procedure—which is unprecedented in the history of the universities of Scotland—high-handed and unjust, and we regard it as a very grievous blow to the best interests of the University, more especially as no charge against you has been stated in the motion adopted by the Court. We honour you as our Principal. We declare our unabated confidence in you as our leader; and we thank you for the part which you have taken in directing the affairs of the University in the present crisis, while we express our sympathy with you under the attack made upon you.—Alexander Stewart, Principal of St. Mary's College; John Yule Mackay, Principal of University College; John Burnet, Professor of Greek; T. Claxton Fidler, Professor of Engineering; Patrick Geddes, Professor of Botany; John Herkless, Professor of Ecclesiastical History; William Knight, Professor of Moral Philosophy; J. P. Kuenen, Professor of Physics; William S. M'Cormick, Professor of English Literature; J. M. D. Meiklejohn, Professor of Education; Allan Menzies, Professor of Biblical Criticism; Thomas Purdie, Professor of Chemistry; E. Waymouth Reid, Professor of Physiology; David G. Ritchie, Professor of Logic and Metaphysics; Alexander Roberts, Professor of Humanity; J. E. A. Steggall, Professor of Mathematics; James Walker, Professor of Chemistry.

The Commission appointed by Lord Henniker to inquire into the matter of secondary and technical education in the Isle of Man has reported to his Excellency. It recommends that the existing provisions for secondary education should be extended so as to place the island on a level with England, and that a system of scholarships for theoretical and practical instruction in agriculture should be established. The recommendations would entail an expenditure of £5,000 a year. The report is signed by the Bishop of Sodor and Man.

A marble bust of the late Miss Frances Mary Buss (executed by Mr. Roscoe-Mullins) has been unveiled at the Camden School for Girls, Prince of Wales's Road, of which, together with the North London Collegiate School for Girls, she was the founder. The ceremony of unveiling was performed by the Rev. A. J. Buss in the presence of the teaching staff, the pupils, and a number of visitors. On September 25, a memorial window, also in honour of Miss Buss, was unveiled in the church at Theydon Bois. It was erected by Miss Toplis and the girls of Montague House (one of the school boarding houses), and illustrates the words from "The Pilgrim's Progress," "The Interpreter called a servant of his, called Greathcart. 'Take these, my daughters,' said he, 'and conduct them to the House called Beautiful.'" A short dedication service was conducted by the Rev. C. E. Campbell, vicar, the Rev. Alfred J. Buss, and the Rev. Septimus Buss. The window, which is by Messrs. Clayton & Bell, overlooks Miss Buss's grave in Theydon Bois churchyard. An illustration appeared in the *Queen* of October 2.

The death of Dean Vaughan, of Llandaff, has occurred at an advanced age. Dr. Vaughan was formerly Headmaster of Harrow and Master of the Temple, and he had declined frequent offers of a bishopric. Mr. F. W. Newman, formerly Professor of Latin at University College, London, and brother of Cardinal Newman, and Canon Elwyn, Master of the Charterhouse, are also to be included in the month's obituary. We greatly regret to have to record the death of Dr. Dillon, member of the Council of the College of Preceptors, which took place very suddenly in the first week of October.

A letter has been received in Winnipeg which purports to contain the text of the Papal finding in the Manitoba schools question, based on the report of Mgr. Merry del Val. The finding, as outlined in the letter, is regarded as favourable to the settlement reached between the Federal and local Governments. It states that where interests differ but do not clash the Church desires that there shall be harmony. This is interpreted to mean that both Church and State have an interest in education, and where both can attain their object without sacrifice of cardinal principles in one system of schools these may be adopted by the Church.

The London Branch of the Association for Child Study, which was started about two years ago, and numbers over 120 members, has just issued a scheme of work, copies of which can be obtained from the Hon. Sec., 81 Harley Street, W. The officers of the London Branch are as follows:—President, H. Holman, Esq., H.M.I.; Vice-Presidents: Dr. R. Langdon-Down, Dr. Francis Warner, Miss Alice Woods; Hon. Sec. and Treasurer, Miss M. E. Crees, 59 St. John's Park, N.; Committee, Miss Buckton, Rev. J. C. Bevan, Dr. Fletcher Beach, Mrs. Baker, W. S. Baker, Esq., E. Cooke, Esq., Miss M. Christiansen, Miss M. Crombie, Mrs. Langdon-Down, Mrs. R. Langdon-Down, Miss Franks, Miss Finch, Dr. Kaines, Miss Esther Lawrence, Mrs. Legg, Mrs. Mott, Madame Michaelis, Miss Manley, Miss Kate Stevens, and Professor J. Sully.

On Saturday, October 23, the Prince of Wales laid the foundation stone of the new Christ's Hospital School, which is to be built at Horsham, in Sussex, thirty-eight miles from London, at a cost of more than a quarter of a million sterling.

On October 25, two designs in mosaic, one of St. Paul and one of Dean Colet, were dedicated by the Bishop of Bristol in the Large Hall of St. Paul's School.

We have received, unfortunately too late for detailed notice, a report of the annual general meeting of the Yorkshire Ladies' Council of Education, held at Leeds on October 20, with Mrs. Boyd Carpenter in the chair, at which Sir Walter Besant gave an address on the "Employment of Women."

UNIVERSITIES.

(*From our Correspondents.*)

Oxford. The chief event of the vacation has been the election of Mr. Henry Pelham, Professor of Ancient History, to the Presidentship of Trinity, vacated by the resignation of Dr. Woods. Mr. Pelham has for many years taken an active part in University business in the Council, in Convocation, and on various Boards, and is well known as a strong Liberal both in the political and the academical sense, as a vigorous and effective speaker and an excellent lecturer. A short history of Rome, which he published a few years ago, while admirable for its lucidity and grasp, is, as far as treatment of the subject goes, little more than a sketch. Now, however, that a successful operation has restored to him the full use of his eyesight, which had for some years been seriously impaired, a larger work may, it is hoped, be looked for from him.

Two new Professors, Mr. Sollas and Mr. Stewart, deliver inaugural lectures this term, and Professor Maitland, of Cambridge, the Ford Lecturer, begins his course on "Township and Borough," in the second week of term.

The course of instruction in connexion with the Training Scheme is fairly started, and two schools have been used for practical work, the men working under Mr. Keatinge, the

women under Miss Cooper. Mr. Keatinge also lectures to the whole body of students, and Miss Cooper will give a few lectures specially suited to the women. The first examination will be held at the end of the term, but is not, of course, restricted to Oxford students.

Miss Maitland, the Principal of Somerville, is unfortunately obliged, through illness, to be absent from Oxford this term, and her place is being taken by Miss Shaw-Lefevre, her predecessor. Miss Maitland has done much to strengthen and develop the College, and her unremitting activity in its behalf gives her, in her enforced rest, a claim to the sympathy of all connected with it.

The Bishop Fraser's "research" scholarship at Oriel is thrown open *pro hac vice* to members of other colleges in the University. The Scholarship is open to persons who have taken the degree of Bachelor of Arts, or have fulfilled all the requirements necessary to qualify them for the degree, and who are not of standing to take the degree of Master of Arts. In making an election the Provost and Fellows of Oriel will take into consideration the pecuniary circumstances of the candidates, and as far as practicable will only elect those who without such assistance would find it difficult to pursue their studies after taking the degree of B.A. The Scholar elected will be required, as a condition of holding his scholarship, to pursue some special branch of study to be approved by the Provost and Fellows, and the Provost and Fellows have power, at their discretion, to require him to reside in Oxford and to attend lectures there or elsewhere, or to produce such other evidence as they may think necessary to satisfy them that he is properly and satisfactorily pursuing the branch of study selected. The scholarship is of the value of £100, and is tenable for one year. The Provost and Fellows have power, if they think fit, to permit it to be retained for a second year. The election may be made either after a special examination or after such evidence of the attainments, deserts, and fitness of the candidates as shall be satisfactory to the Provost and Fellows.

Cambridge. The first day of October saw an unusually large number of residents assembled in the Senate House, to hear the valedictory speech of the retiring Vice-Chancellor, which has been reported in the daily papers.

On Mr. Smith's vacating the chair, Dr. Hill, Master of Downing, was admitted to the office of Vice-Chancellor, while Mr. H. W. Fulford, of Clare, and Mr. J. B. Peace, of Emmanuel, were, at a Congregation held shortly afterwards, admitted to the office of Proctor. Everything points to an unusually uneventful and therefore satisfactory term; there is no burning question to disturb the academic calm, and the ceaseless agitation for new offices, new lectureships, new buildings, has for the time worked itself out.

The number of matriculations (880) is fairly good. Trinity heads the list with 197, while Trinity Hall and Emmanuel make a fair show with 62 apiece. It would be an interesting study to compare the numbers entering at various colleges with the successes obtained on the river and in the football field. It would probably be found that the pecuniary value of a bump among the first three boats in the May races was worth more than a Senior Wranglership.

The death of Professor Roy, on October 4, was hardly a surprise to his friends; barely forty-three years of age, the late Professor had achieved distinction at an age when other men are beginning serious work. For the last few years failing health had prevented him discharging the duties of his Professorship. It is hoped that the electors, in discharging the difficult task of electing Mr. Roy's successor, will not think it necessary to go outside Cambridge and introduce one more alien to the list of imported professors. Brilliant as our professors are as a body, great discouragement is caused to the rising medical school by the constant ingrafting of men from other Universities who are strangers to Cambridge and its ways.

The twenty-fourth report on the subject of the Local Lectures has just been published. The need of more systematic and organized work is fully admitted; the ability of the University to cope with the demand, arising from the rapid growth of sound education, is plainly set forth, and a suggestion is thrown out as to the desirability of the University granting recognition, by way of diploma or otherwise, to those who have pursued definite and systematic courses of study tested by examination. A guarded allusion is made to the possible evil caused by the danger that a too narrow view may be taken of the requirements by the country, owing to the fact that the management of funds granted to local authorities for technical and scientific education must necessarily fall into the hands of those who, by the conditions of their lives, are not educational experts. These are the views of the Syndicate and their responsible officers: the general feeling in the University is that a large measure of success has been attained in connexion with the Local Examinations, and almost equally important, though, perhaps, not so noticeable, results by the Local Lecture system. So that those who have steered the ship in the difficult waters are likely to be trusted with the command in the plain sailing of the future.

The results of the examination held by the Teachers' Training Syndicate, during the Long Vacation, show that the Cambridge Training College has fully maintained the prestige which the earnest work of Miss Hughes and her able staff so early secured for that institution. In the theoretical part of the examination the following were the numbers:—Class I., 14; Class II., 57; Class III., 29. The Cambridge Training College was responsible for three in the first class, 22 in the second, and 10 in the third.

In the practical examination the results were even better: 13 first classes out of 30; 17 seconds out of 43; 4 thirds out of 12.

When will the University make an effort to give men the same advantages that women now possess? The man who sets to work with the definite intention of preparing himself for an educational career finds no place for himself in this great University, but, like a dentist in old days, must practise at the expense of his patients.

The health of the undergraduates is at present fairly good, but, doubtless, we shall shortly hear of a widespread outbreak of sickness caused by the noxious effluvia issuing from the new Cambridge drains. It is incredible that, in a civilized community, the present state of affairs should continue to exist. An ornamental façade is to be added to the Guildhall at an enormous cost; the expenditure of one quarter the amount would remove the cause of complaint, which may, at any moment, bring a great disaster upon our University.

Building has been going on apace in the Long Vacation: Trinity has been remodelling Whewell's Court by removing the top story on one side, so as to give more light to the remaining rooms; a large number of bow-windows have been built, and a part of the basement has been utilized for bath-rooms. There is a talk of the establishment of a junior combination room, after the style of those in existence at certain Oxford colleges, and there are rumours of further improvements intended to promote the comfort and reduce the expenses of the undergraduates.

The town and University were alike startled at the beginning of the term by the sudden disappearance of Mr. W. Peed, solicitor and under-sheriff, who had charge of the affairs of one college and was largely trusted by many of the principal inhabitants. The amount of Mr. Peed's liabilities is officially stated at about £110,000, but it is more than likely that double that sum will not prove an extravagant estimate.

On the river steady work is going on: the coxswainless fours are in full practice, and preparations are being made for the trial eights at the end of the term. It is said that the President has an unusually good lot of raw material to work on, so that our prospects against Oxford are at least fair.

The Rugby football team has in its first two foreign matches shown itself well above the average, and has not yet had a single point scored against it; Guy's Hospital and the Harlequins have met with decided defeats.

Among recent appointments are—Lady Margaret's Preachership: Hon. and Rev. A. T. Lyttelton, M.A. Trinity; Demonstrator of Anatomy (re-appointment): Mr. H. Higgins, M.A. King's; Fellowships: Queens' College, W. G. Fraser, Senior Wrangler, 1896; Trinity College, F. W. Lawrence, W. M. Fletcher.

London. The vacancy in the Senate, caused by the death of Mr. Rivington, has been filled up by the appointment (by the Crown) of Mr. Victor Horsley, M.B., B.S., F.R.S., as a Fellow. Mr. Horsley is a medical graduate of the University, who passed through his course with numerous honours, and ended with the scholarship and medal at the Honours Examination in Surgery in 1881. For seven years (1884–91) he was Professor-Superintendent of the Brown Institution, and pursued there several remarkable researches. He has quite recently been elected by the medical body as their representative upon the General Medical Council.

Mr. James Heywood, M.A., F.R.S., died at an advanced age on

October 17. Mr. Heywood was, for more than thirty years (1856–87), a very useful member of the Senate, and deserves to be remembered as one of an influential band of men who worked hard for the removal of sectarian restrictions from the older Universities.

A propos of our remarks in June respecting the additional annual meeting of Convocation, our prophetic soul has derived a melancholy satisfaction from the circular just issued by the clerk to that body, informing graduates that he has absolutely no agenda for the meeting due on October 26.

The annual course of five lectures in connexion with the Brown Institution will be delivered in November—four of them at the University, at 5 o'clock on the 9th, 16th, 23rd, and 30th. The fifth generally takes the form of a demonstration at the Institution, Wandsworth Road, Vauxhall. The subjects are usually announced in the leading daily papers at the beginning of the month.

It is reported that the Calendar for the current year is now procurable by any one who can muster five shillings and can take or send them to the University to exchange for the book. We have not yet been able to surmount these difficulties: we hear, however, on good authority, that the Calendar this time contains both the existing regulations and the revised ones that come into force in 1899. The latter, as we before mentioned, were issued separately a month or two ago, and we have a set before us. The point raised by a correspondent quoted in last month's *Educational Times* (page 412), viz., the introduction of a *viva-voce* examination in French and in German at the Intermediate Pass Examination in Arts (and also at the Honours, and at the B.A. Pass and Honours), invites at least one serious question. Of course, the power to speak and to follow speakers in French, &c., is of great value; but we have heard it asserted that it is an accomplishment indispensable only for couriers and commercial travellers, not for the scholar. However, here is the requirement; and the question arises how it is to be worked. For at the Intermediate there have sometimes been above 760 candidates present. The least time a single candidate could occupy would be five or six minutes; which, for 760, means about 64 hours' work for one examiner in French (for German hardly counts), or 32 for two examiners, or 16 for four; and eight must be put on to get through the work in a solid "eight hours' day"; and yet we cannot find that any time is set apart for it in the time-table. We have assumed, however, that, as in the case of *vivâ-voce* examinations in science, all candidates will be required to come to London. But, for applying such a very elementary test, it is to be hoped that competent graduates will be found to act as provincial sub-examiners; this would relieve London to the extent of nearly a half. It is further to be hoped, for the comfort of the above-mentioned correspondent and others like him, that, when their work on paper is good, a moderate stutter in parly-voo will be held to qualify; and surely no candidate is nowadays so far from help as to be unable to get a lift up to that standard. As to the degree examination, it is doubtful whether the provincial examinations will survive the great extension of the B.A. time-table.

Wales. The Annual Collegiate Meeting of the Court of the University of Wales was held this year at the Town Hall, Cardiff, on Friday, October 22. The Annual Collegiate Meeting of the Court is held in rotation at the seats of the three University Colleges, Aberystwyth, Bangor, and Cardiff. The chief business of the Court on Friday week was to receive the reports of the Executive Committee, of the Senate, and of the Theological Board of the University re-respectively. The only point in the reports which gave rise to considerable discussion was the proposal of the Executive Committee to raise the fee for exemption from the University of Wales Matriculation Examination from £1, as at present, to £2. Exemption from the Matriculation Examination of the University of Wales is now granted to those who have passed the Matriculation Examination of the University of London and certain other examinations, such as the Oxford and Cambridge Higher Local Examinations, subject for subject. Already sixty-two students have availed themselves of this relaxation, and have entered upon degree courses for the University of Wales, whereas, if they had been subjected to the necessity of passing another preliminary examination in addition to a similar examination already passed, they would, probably, not have proceeded to the degree of the University of Wales at all. The wisdom of the policy of the University in compelling students who have already passed the Matriculation Examination of the University of London and similar examinations to pay a fee of £2 for exemption from the Matriculation Examination of the University of Wales is very doubtful, in the interests of the University itself. The proposal of the Executive Committee to raise the fee was carried by eighteen votes to fourteen.

In the afternoon of the same day, a Congregation of the University was held in the Park Hall, Cardiff, for the purpose of holding the first ceremony for amdission to degrees. The ceremony, which was open to the public, was well attended. The formulas used in the ceremony were in Latin. Fourteen candidates in all were presented, from the University Colleges of Aberystwyth and Cardiff. The Vice-Chancellor of the University for this year is Principal T. F. Roberts, M.A., of the University College of Aberystwyth.

On Saturday, November 23, an Executive Committee meeting of the Central Welsh Board for Intermediate Education was held at the offices of the Glamorganshire County Council, Cardiff. The chief business of the Executive Committee was to consider the annual reports upon the inspection and examination of the schools.

The University of Wales will sustain a great loss through the resignation of Professor G. C. Richards, M.A., from the Chair of Greek at the University College of South Wales and Monmouthshire, to which he was elected a little over six years ago. Mr. Richards, who is returning to Oxford as Fellow and Tutor of Oriel, took an active part, not only in the College in which he was Professor, but also in the University of Wales, especially in the work of framing schemes of study. He was the first Secretary of the Faculty of Arts, and also of the Departmental Committee in Greek, both of which offices he held with conspicuous success.

APPOINTMENTS, &c.

Canon Haig Brown, Headmaster of Charterhouse School and formerly President of the College of Preceptors, has been appointed Master of the Charterhouse, in succession to the late Canon Elwyn.

Professor Pelham, of Oxford, has been elected President of Trinity College, in succession to the Rev. H. G. Woods, resigned.

Dr. Herbert Giles, of Aberdeen, has been appointed Professor of Chinese in the University of Cambridge.—The Professorship of Pathology in the same University is vacant by the death of Dr. Smart Roy.—At Edinburgh, Dr. Hawthorne resigns his Lectureship in Materia Medica; and in the same University a Lectureship in Celtic is about to be established.—The University of Aberdeen has decided to appoint a Lecturer in German.

Mr. J. King, M.A., of Wyggeston School, Leicester, has been appointed Headmaster of Hitchin Grammar School, and Mr. H. Robinson, M.A., is the new Headmaster of Ayr Grammar School. —Miss F. E. Davies and Miss F. M. Williams, both of Aberystwyth, have been appointed to the County Schools of Ebbw Vale and Cardigan, respectively.

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The Distribution of Diplomas and Certificates of the College of Preceptors will take place on Saturday, November 6. Canon Daniel will preside on this occasion.

It was decided at the last meeting of the Council to offer a Holiday Course, for ten days in January, to teachers. Arrangements for the programme are now being made, and full details will be published in the next number of the *Educational Times*. It is intended to provide Morning Courses of Lectures, divided into two sections of five days each (January 4 to 9, and 11 to 15).

For some afternoons visits to educational institutions will be arranged, and single lectures and perhaps other provision of a more recreative character will be provided in the evenings. These lighter portions of the programme will probably be offered separately from the rest, in the belief that they will be welcome to many teachers who come up to London in January

either to visit the scholastic agencies, or to take the College of Preceptors' or other examination, or to attend some of the various meetings of teachers' societies which are held at this time.

A Conference on Secondary Education is to be opened at Durham University on November 13.

Amongst educational benefactions of the month are £8,000 at Aberdeen, for the creation of a Croom Robertson Fellowship, and one-third of the estate of Sir J. C. Bucknill, for the foundation of a medical scholarship at University College, London.

The Intermediate and University Teachers of Ireland have determined to form themselves into an association for the furtherance of their common interests.

The offices of the University of Wales have been fixed at Brecon for a term of five years. It would not be surprising if this arrangement were to become definitive.

The National Society of French Teachers in England send us particulars of their thirteenth annual competition in French Language and Literature, which will take place on November 12 (for boys), and November 13 (for girls). A large number of prizes are offered. The office of the Society is at 20 Bedford Street, Strand.

PUBLIC EDUCATION IN FRANCE.

I.

It is proposed in the following paper to present a succinct statement relating to the organization and working of public elementary education in France. The whole of the scholastic institutions founded and controlled by the government of the country is called the *Université*. The *Université* has not, however, a monopoly of teaching: it would evidently not be just for the State to monopolize instruction and education. Apart from public schools, it is necessary that there should be private schools in which individuals as well as authorized associations may apply their particular methods, and where children may be brought up according to the particular opinions and beliefs of their parents. With respect to private teaching, the State has only to interfere on behalf of the public interest in order to see that the instruction is given by competent teachers, and in conformity with the general principles of morality and the laws of the country.

Different grades of Public Education.—The different needs of citizens, from an educational point of view, have made it necessary to distinguish three grades in public teaching: elementary (*primaire*), intermediate (*secondaire*), and higher (*supérieur*) education. Elementary teaching affords the knowledge which is indispensable to all. It is given in dame-schools (*écoles maternelles*), infant-schools (*classes enfantines*), elementary schools (*écoles primaires élémentaires*), higher elementary schools (*écoles primaires supérieures*), and normal schools (*écoles normales*). Intermediate teaching is given in colleges (*collèges*) and lyceums (*lycées*) to the boys whose intelligence or conditions in life enable them to receive a more liberal education. Finally, the higher instruction, which is imparted in *Facultés de lettres, de sciences, de droit et de médecine*, is for the young men who, after having completed their secondary studies, require a more advanced knowledge of special branches of learning.

Administration of Public Education.—Under the Minister of Public Instruction (*Ministre de l'Instruction publique*), who directs public education with the help of the Superior Council of Public Instruction (*Conseil Supérieur de l'Instruction publique*), are the rectors (*recteurs*) placed at the head of the seventeen French *académies*, the general inspectors (*inspecteurs généraux*) corresponding to the various subjects of public teaching, the *inspecteurs d'académie*, who control public teaching in every Department, and lastly, the elementary inspectors (*inspecteurs primaires*), who superintend public teaching in every *arrondissement*, or fraction of an *arrondissement*. The elementary inspectors are under the *inspecteurs d'académie*, these under the *recteurs*, these again, as well as the general inspectors, under the *Ministre de l'Instruction publique*.

Elementary Education (*Enseignement primaire*).—Without exaggeration it may be said that elementary education is one of the many blessings that France owes to the Republic. For instance, the budget of this department, which amounted only to £2,000 (50,000 francs), under the Restoration, is at least a thousand times more important to-day (about sixty or sixty-five millions of francs). Besides, several laws have rendered public education free (since 1881), compulsory and secular (since 1882).

Dame-Schools (*Écoles maternelles*).—These schools admit children of both sexes, between two and six years of age. The children, divided into two sections, are under the care of one or several assistant teachers and a *Directrice*. The teaching special to these schools comprises the following subjects: Games resembling those under the Kindergarten system, manual exercises, the first principles of moral education, the elements of reading, writing, spelling, ciphering. The object in view is not to teach much, but well; to inspire children with love for school and study; to give them good physical, mental, and moral habits.

Infant-Schools (*Classes enfantines*).—In the parishes (*communes*) where there is a dame-school, the infant-school is the link which unites the dame-school with the elementary school. In the parishes where there is no dame-school, the infant-school is intended to take the place of the former. In both cases its chief advantage is to prepare boys and girls for the elementary course of the elementary school. These boys and girls are admitted between four and seven years of age, and intrusted to schoolmistresses.

Elementary Schools (*Écoles primaires élémentaires*). — Elementary schools receive either boys or girls, or both sexes. The lessons are given by men to boys, by women to girls. In mixed schools (*écoles mixtes*), that is, schools which include both boys and girls, the teaching is ordinarily given by schoolmistresses; but schoolmasters may be authorized to manage them. Boys and girls are admitted into elementary schools from five to seven years of age, and classified under three divisions: elementary (*élémentaire*), middle (*moyen*), and higher (*supérieur*), each of which may comprise one, two, or several sections.

While municipal councils (*conseils municipaux*) are not obliged to found and keep up dame-schools and infant-schools, they are compelled by the Education Act of 1886 to establish elementary schools. As a matter of fact, no compulsion is needed to make them fulfil their duty, for the utility of such schools is acknowledged by the immense majority of the French people. The syllabus (*programme*) includes the following subjects:—(*a*) *Physical Education*: gymnastics for boys and girls; drill for boys only; needlework for girls only; various manual exercises for both sexes. (*b*) *Intellectual Education*: reading, writing, spelling and recitation; French language and grammar; the history and geography of France; elementary notions of the history and geography of other nations, both ancient and modern; civic education, comprising an elementary knowledge of the laws and institutions of the country as well as the duties of citizenship; practical notions of sciences, agriculture and horticulture; drawing and music. (*c*) *Moral Education*: readings and familiar conversations on the duties we owe to ourselves, family, society, country, other peoples, and towards God. When scholars of elementary schools are eleven years old, they may sit for an examination for a certificate of elementary studies (*certificat d'études primaires*). They have to write papers and to answer questions on the subjects which have been taught them. These examinations are held once a year throughout France, by elementary inspectors. The certificates are delivered by *inspecteurs d'académie*.

Higher-grade schools (*Écoles primaires supérieures*).—The object of these schools, established since 1833 and entirely reorganized by the Republic, is to give supplementary instruction to the scholars who already have the certificate of elementary studies. These scholars are sometimes bound to pass an entrance examination. Then they are divided into two or three sections (*années*). They study the same subjects as in elementary schools, but with fuller details. Besides, they learn the elements of algebra, bookkeeping, common law (*droit usuel*), political economy, history of French literature, commercial geography, English or German. When these schools are founded for a commercial purpose, they are called *écoles de commerce*. When they are established for industrial ends, they are called *écoles professionnelles* or *écoles manuelles d'apprentissage*. Whatever name may be applied to them, they enable many of their scholars to pass successfully the certificate of higher elementary studies (*certificat d'études primaires supérieures*) and even to enter normal schools.

Normal schools (*Écoles normales*).—It is needless to insist on the importance of normal schools or French training colleges. They are obviously the corner stone of the whole fabric of public elementary education. With good normal schools the country is sure to have good masters, and with good masters everything is won. Formerly normal schools were almost exclusively established by Departments, exactly as elementary schools were by parishes (*communes*); to-day they are public establishments directly connected with the headquarters of public education. Formerly, they were amenable to *préfets*, now they are placed under the supervision of *recteurs*. Candidates for admission to normal schools cannot sit for the entrance examination (*a*) unless they are over sixteen years and under eighteen years of age on the 1st of October next following the date of the examination [the date of birth must be forwarded to the Department with the application for permission to sit at the examination]; (*b*) unless they have the elementary certificate (*brevet élémentaire*); (*c*) unless they engage themselves to teach in public schools for ten years [if that engagement is not kept, normal-school men and girls are obliged to pay the amount of all expenses occasioned by their studies and maintenance]; (*d*) unless they produce a medical certificate showing their physical fitness for the profession of teacher. Candidates who fail twice to pass the entrance examination will not be again examined.

The following is a syllabus of the subjects of the written, oral,

and physical examination :—(*a*) *written :* writing, spelling, composition, arithmetic, drawing; (*b*) *oral :* reading, recitation, French grammar and language, the history and geography of France, arithmetic, elementary notions of sciences, and music; (*c*) *physical :* gymnastics and drill for men, needlework and domestic economy for girls. The course of study lasts three years. As a rule, men and girls at the normal school live in the establishment in which they are educated; but day scholars (*externes*) may be authorized by *recteurs* to attend lectures without paying, and under exactly the same conditions as ordinary scholars.

The studies of pupils in normal schools are of four kinds :—(*a*) *Literary :* writing, reading and recitation; French grammar and composition; history of the French language and literature; a special study of about a dozen selected writings belonging to the last three centuries of French literature; elementary notions of English, German, Spanish, or Italian. English and German have the greatest importance. (*b*) *Scientific :* arithmetic, algebra and mensuration, Euclid (the eight books), trigonometry, elementary notions of book-keeping, land-measuring and levelling; physical and natural sciences; hygiene; the first principles and practical applications of agriculture and horticulture. (*c*) *Additional :* music, drawing, gymnastics, gardening, for both men and girls; needlework and domestic economy, for girls only; drill; wood and ivory work, for men only. (*d*) *Professional :* psychology and ethics; the history of education in ancient and modern times, with reference to the best works written on teaching; practical teaching either at the normal school or at the annexed school (*école annexe*). After three years' study, men and girls go in for the *brevet supérieur* examination. This comprises papers and oral questions relating to the preceding studies, with the exception of practical teaching, for which there is a special examination called *certificat d'aptitude pédagogique* (schoolmaster's certificate), which assistant teachers of both sexes are obliged to pass in order to obtain an appointment as headmaster or headmistress in any public elementary school. The masters and mistresses who teach in normal schools (their official title is *professeurs*) must have the *certificat d'aptitude à l'enseignement des lettres* [*ou des sciences*] *dans les écoles normales et les écoles primaires supérieures.* Most of them have been trained either at Saint Cloud higher normal school (men) or at Fontenay-aux-Roses higher normal school (women). They may elect not to live in the establishment in which they teach.

The administration of a normal school comprises a *directeur* or a *directrice*, an *économe* (secretary or lady superintendent), an Administrative Council (*Conseil d'Administration*). *Directeurs* and *directrices* possess a special certificate. *Directeurs* are generally selected from among the best elementary inspectors. In all cases, they are appointed, as also are *économes*, masters, and mistresses, by the Minister of Public Instruction. *Directeurs* and *directrices* teach psychology, ethics, the history of educational philosophy, and the theory of education. They also control the work of masters and mistresses, and the financial operations of *économes*, as well as the professional training of the men and girls in annexed schools. *Directeurs* are paid from 3,500 to 5,500 francs a year, and *directrices* from 3,000 to 5,000 francs a year. *Economes* organize all the domestic arrangements of the normal school—food, drink, servants, and so on. In normal schools containing more than sixty scholars, *économes* give their whole time to their special duties; but in normal schools containing less than sixty scholars they give lectures on mathematics and book-keeping. Masters and mistresses give eighteen or twenty hours' teaching a week, according to the number of their scholars (sixty or under sixty), *économes* only ten hours. Masters receive from 2,500 to 3,400 francs, and mistresses from 2,200 to 3,000 francs per annum; *économes* have an annual allowance of 500 francs. Masters, mistresses, *économes*, *directeurs*, and *directrices*, as well as all other officials, have a right to a retiring pension at least equal to half their past average salary, but, except in extraordinary cases, only after twenty-five years' service, and when they are at least fifty-five years old. The Administrative Council (*Conseil d'Administration*) comprises six members, under the presidency of the *Inspecteur d'Académie;* four are appointed by the *recteur*, two are elected by the *Conseil général* of every Department. The Administrative Council controls the management of the normal school revenues, the choice of servants, other details of the same kind; and every year in July it draws up a report on the financial condition of the establishment.

In all the normal schools throughout France the discipline is determined by the self-same regulations. Men and girls are free on Sundays and legal *fête*-days. However, *directeurs* and *directrices* are allowed to give them an occasional holiday if they think it necessary. They can also suppress ordinary holidays for the men and girls whose work has not been satisfactory. There is no other punishment in normal schools. By their teaching and their example, masters and mistresses constantly appeal to the conscience and the sense of duty of their pupils, and their call is generally heard; men and girls are ordinarily obedient, of good will, and devoted to their work. Although they still have much to learn after having left the normal school, they generally make good schoolmasters and good schoolmistresses.

L. Bascan,
Professeur à l'École Normale de Caen.

GIFT-BOOKS AND PRIZES.

I.

Amongst the gift-books and prizes of the coming season we include a number of volumes which would be more or less appropriate to any season, but which, coming out at the present moment, may fairly be classed with books for presentation. Such a volume is the popular edition of *Fire and Sword in the Soudan*, by R. C. Slatin Pasha, C.B., translated by Lieut.-Col. F. R. Wingate, C.B. (Edward Arnold). This is Slatin Pasha's narrative of fighting and serving amongst the Dervishes, between 1879 and 1895. It is accompanied by maps and many illustrations, and is especially interesting at a time when the Egyptians are once more approaching Khartoum.

There is not, as a rule, too much of literature in the books which we give to the rising generation. The best of stories, if it be not literature, soon fades from the memory, and leaves no good store behind it. Only that which is essential literature, whether in prose or in verse, lays up treasure for the years to come; and they who are wise do well to tempt the young, at every opportunity, to read the words that will live. In English poetry there is nothing more likely to cling to the memory than the terse quaint words of a ballad which has caught the imagination, and has been read again and again. It would be hard to find a better or handsomer present, for a boy or girl with a modicum of poetic taste, than *Illustrated British Ballads, Old and New* (Cassell & Co.). Mr. Barnett Smith's collection is fairly well-known, and the publishers are well advised in re-issuing it, and keeping it before the public. It is a treasury of the best ballads in the language, few of real excellence being omitted; and the very numerous illustrations help to stamp them on the mind. For a book so large and so copiously illustrated, the price of 7s. 6d. is remarkably moderate.

Captains Courageous, by Rudyard Kipling (Macmillan) is not a volume of seamen's biographies, from the age of the Tudors to good Queen Victoria, but a lively racy book of the North Atlantic, a book of the sea, and sailors, and codfish, and humanity, told with Mr. Kipling's wonted spirit, and well illustrated by Mr. I. W. Taber. There are plenty of yarns within the yarn, and Mr. Kipling gets a great deal of fun out of his Irish-American sailors.

A very good story, of a literary cast, is *The Camp of Refuge*, by Charles Macfarlane, the second of Messrs. Constable's "Library of Historical Novels and Romances," edited by Mr. G. L. Gomme. Though it is accompanied by an introduction and notes, these are not as we have them in an ordinary school text, but are in themselves very readable, and helpful to the story. Mr. Gomme compares Macfarlane's narrative with Kingsley's, and indicates the points in which they differ; but, as he says, there is room for both views of this hero of the English struggle against the Normans. "The Camp of Refuge" will not be the least welcome of Christmas stories.

The Pink Fairy Book (Longmans) is another of Mr. Andrew Lang's chromatic series of fairy tales. After the blue, red, green, and yellow, the pink volume is very welcome, with its Japanese tales, introducing a new character into the world of simple wonderment—the Fanuki, to wit. There are new tales from other countries, and altogether Mr. Lang may be warmly thanked for his additions to our store of marvel and mystery. He has been ably seconded by Mr. H. J. Ford, whose pictures are admirable. This is a thoroughly seasonable book.

Hugh Wynne, by S. Weir Mitchell, M.D. (Fisher Unwin), is the story of a Free Quaker—that is to say, a fighting Quaker, who was lieutenant-colonel on the staff of Washington. The very contrast between our notions of a Quaker and the notion of a fighting Quaker gives this tale an interest to begin with, and the reader need not imagine that "Hugh Wynne" is in any way dull or uneventful. It is the very opposite all through. In fact, Wynne was no Quaker, but a man who actively resisted his enemies; and the story of his adventures is bright and vigorous from first to last. We commend it as a very good tale for boys.

Mr. Ascott Hope, author of "Cap and Gown Comedy," is responsible for *Half-Text History : Chronicles of School Life* (Black), which is intended as a companion to the other. He tells us that his book treats boys as men in little, and that their lives are "history written, as it were, in half-text or sprawling round hand." The chronicles in this book are reprints, but all are good reading, and the boy who gets the whole collection should not grumble if he finds that he has met one of them before.

Mr. Hugh St. Leger gives us a good old-fashioned story of "foam, fire, and fight" in *The Rover's Quest* (Chambers). It has a youthful hero, whose lot is cast amongst sailors good and bad, loyal and mutinous; and the yarn about this kid-glove seaman in his first and involuntary voyage is sufficiently pleasant and exciting.

Amongst the seasonable books of fiction, prepared especially for boys and girls, or for adults who have retained their taste for simple narratives, are two handsome gilt-edged stories, one more suited for boys and the other for girls, and both published by Nelson & Sons. *An Emperor's Doom, or The Patriots of Mexico*, is a stirring story by Mr. Herbert Hayens, dealing with the fate of the unfortunate Maximilian, the

Austrian emperor set up by the French in Mexico. The subject is full of incident, and it is not hackneyed. If Mr. Hayens has had to imagine it all, he has imagined it well. "*Sister*": *a Chronicle of Fair Haven*, is by Miss Everett-Green, and it is a quiet purring story to begin with, all about well-bred young men and maidens, with lords and ladies and military officers thrown in; and there is an intense love story, very pathetic in its way, but not too sentimental to be sensible. On that basis we can quite warrant it as wholesome reading for the young. These are 5s. books. *Poppy*, by Mrs. Isla Sitwell, is a 3s. 6d. book from the same publishers. Poppy is "a rosebud set with little wilful thorns," and makes a very good heroine for a story. Mrs. Sitwell has told her tale in a pleasant and interesting way.

Mrs. Molesworth's present to the little ones is *Miss Mouse and her Boys* (Macmillans), the story of a good-souled gentle girl and sundry small boys whom she befriended. The atmosphere of the book is very pure and wholesome, and we are always ready to commend (especially for girls) a new story by the author of "Sheilah's Mystery."

Amongst illustrated gift-books for children there are two or three for which we must find a word of special praise. *Adventures in Toyland*, by Edith King Hall, illustrated by Alice B. Woodward (Blackie & Son), is written and pictured in a fairly artistic vein of humour, and will bring joy to the heart of every child who secures it. It does not much matter whether the little ones can read the print or not; they will read the pictures easily enough, and all the more easily if someone keeps time to them with the prim but quaint and artless text. *Just Forty Winks; or The Droll Adventures of Davie Trott*, by Hamish Hendry, illustrated by Gertrude M. Bradley (same publishers), is a book of dreams and fancies which come to a rather naughty little boy who tickled his sister at the Bible lesson, and was kept in on a summer afternoon. It is very good fun, and we can recommend it. *Red Apple and Silver Bells*, by Mr. Hendry and Miss Woodward (same publishers), is in verse, simple and unexacting, if not always rhythmical. Some of the drawings are a little vague and indefinite for a young child's taste, but they are good in point of art.

Of reprinted works suitable for gifts or prizes we will give the first place to La Motte Fouqué's *Undine*, with illustrations by Rosie M. M. Pitman (Macmillans). This beautiful but melancholy story will always have its admirers, but we are not quite sure that this edition will greatly increase their number. The illustrations are those of an amateur, and have more of fancy than of finish; the drawing in some instances is utterly inadequate. Something also should have been said of the translator.

Messrs. Macmillans have done well to print, in a neat half-crown edition, with illustrations, such old favourites as Kingsley's *Hereward the Wake* and *Westward Ho!*, Dickens' *Oliver Twist*, Miss Muloek's *The Lances of Lynwood* and *Olive*, Mrs. Oliphant's *Agnes Hopetoun*, and Mrs. Molesworth's *Carrots*. Some of them are rather old-fashioned, both in text and illustration, but we should say that they will all find plenty of readers, in spite of the ever-increasing number of their competitors.

The Leisure Hour appears this year in a new dress, and the character of the magazine as a whole seems to us to have been raised all round in keeping with its improved appearance. The frontispieces of the monthly numbers are an admirable series of reproductions from a dozen fine pictures; and altogether the annual volume for 1897 is as good as any that we remember to have seen. The *Sunday at Home* volume (Religious Tract Society) is full of quietly attractive reading and suitable pictures. It will be a welcome present for many a sober-minded boy and girl.

Thousands of young readers will welcome the *Boy's Own Annual* and the *Girl's Own Annual* as established and familiar friends. If it is evident from these two handsome volumes, or at least from the first of them, that conscious merit pervades every number of the weekly issue, and that the editor does not wait for the commendation of his readers, it must be admitted that there is justification for the good things which the conductors of both annuals find to say of them. Stirring stories, lively pictures, anecdotes, adventures, amusements, crowd the pages from end to end, so that it is impossible to connect the idea of dulness with them. The boys' volume does honour to the Jubilee year by some excellent historic pictures; and the covers of the girls' volume are adorned with portraits of the principal contributors. It is really remarkable to find such a variety of good and attractive reading comprised in the compass of a single book. The attraction, to be sure, is of the lightest and simplest kind, with no great effort to instruct or edify; but that is no drawback in the case of magazines which are specially designed to balance the graver moments of the schoolboy and schoolgirl.

Chums (Cassell & Co.) is a varied and exciting kind of Christmas annual. It is sometimes perhaps a little too exciting, even for the festive holiday consumption of young boys. No doubt there is every variety of boy between the ages of eight and eighteen, and this particular volume is best adapted for the biggest boys with the keenest appetites, who like "bloggy" tales and slightly broad humour. For them there is plenty of entertainment in this volume, which is full of life, as well as of death. A squeamish or fastidious boy might find himself craving for simpler food.

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EVENING MEETING, OCTOBER 20, 1897.

The Chair having being taken by Mr. G. BROWN, Mr. R. F. CHARLES, M.A., read a paper on

THE USE OF HISTORICAL ROMANCES IN THE TEACHING OF HISTORY.

BEFORE attempting to discuss the use of historical romance in the teaching of history, it may be helpful to try to define what we mean by history when we say we teach *history*, what end we propose to ourselves by this study, and what profit, if any, it has in education. Now there are two parties. There is the party that thinks history is a science, and the party that holds it is a branch of literature not very distantly related to poetry; and they quarrel, and a very pretty quarrel it is.

HISTORY AS A SCIENCE.

The position taken by the scientific historians is as follows:—"No past event has any intrinsic importance. The knowledge of it is valuable only as it leads us to form just calculations with respect to the future." That is Lord Macaulay's opinion. Mr. John Morley speaks in similar language: "I do not in the least want to know what happened in the past, except as it enables me to see my way more clearly through what is happening to-day." "The facts established by history," says Professor Seeley, "are mere raw material out of which a science is to be constructed." For a full account of his position I refer you to his "Introduction to Political Science," a volume of lectures edited last year by Mr. Henry Sidgwick, after the death of the author. "Hitherto," says Seeley, "there has hung about historical study a delightful atmosphere of leisure and enjoyment; it has had a dainty flavour of romance, curiosity, poesy, which we may regret to see replaced by the potent, pungent, acrid taste of science." He goes on to show how, bit by bit, science has appropriated classes of facts that once belonged to the historian. For instance, Livy tells us of a bull that had been heard to speak, of blood that had fallen for rain. Such facts would now fall, not to the historian, but to special investigators, to the meteorologist and the physiologist. Similarly, "Political economy is dealing with the facts of industry, the science of jurisprudence is dealing with the facts of law. Already the historian feels that on economical questions, for example, he can afford to be sketchy and summary, because he may refer the reader for fuller information to economical authorities." "History, then, is the name of a *residuum* which has been left when one group of facts after another has been taken possession of by some science." The day will come when this *residuum* too will disappear, and "we shall cease to speak of human history as we have already almost ceased to speak of natural history:

Dann wird einst ausgesungen, Das alte ewige Lied.

The old endless tale will then be told, and history will be swallowed up in science," swallowed up in an inductive science of states, a classification and analysis of states, an investigation into the action of states on one another.

In a well-known passage, Macaulay complained that the province of the historian has been usurped by the historical novelist. "It is the business of the historian," he says, "to make the past present, to bring the distant near, to place us in the society of a great man, or on the eminence which overlooks the field of a mighty battle, to invest with the reality of human flesh and blood beings whom we are too much inclined to consider as personified qualities in an allegory, to call up our ancestors before us with all their peculiarities of language, manners, and garb, to show us over their houses, to seat us at

their tables, to rummage their old-fashioned wardrobes, to explain the use of their ponderous furniture." This, says Macaulay, is the function of the historian. "No," says Professor Seeley, "it is not his duty to record everything of importance that happened in a given country. His subject is not the *country*, it is the *state*."

History as Literature.

In an interesting and amusing essay on the "Muse of History," ("Obiter Dicta," Second Series) Mr. Birrell sets forth the point of view that history is not a science but a story. "To keep the past alive for us is the pious function of the historian. Our curiosity is endless, his the task of gratifying it. We want to know what happened long ago. Performance of this task is only proximately possible; but none the less it must be attempted, for the demand for it is born afresh with every infant's cry. History is a pageant and not a philosophy." He quotes from Carlyle: "'If history is philosophy teaching by example, the writer fitted to compose history is hitherto an unknown man. Better were it that mere earthly historians should leave such pretensions, and, aiming only at some picture of the thing acted, . . . leave the inscrutable purport of them an acknowledged secret.' 'Some picture of the thing acted!' Here we behold the task of the historian; nor is it an idle fruitless task. Science is not the only or the chief source of knowledge." Mr. Birrell continues: "The historian has nothing to do with abstract truth, or with practical politics, or with forecasts of the future. . . . The historian's end is truthful narrative. Maxims he will have, if he is wise, never a one; and as for a moral, if he tell his story well, it will need none; if he tell it ill, it will deserve none." He adds, in his characteristic inimitable manner, that the stream of narrative is often turbulent and tossed, "it is, therefore, all the more the duty of every good citizen to keep it as undefiled as possible, and to do what in him lies to prevent peripatetic philosophers on the banks from throwing their theories into it, either dead ones to decay, or living ones to drown."

I call this a pretty quarrel, for both those distinguished writers attack each other by name, and neither quite justly states the position of the other. Professor Seeley did not like being called a peripatetic philosopher, throwing dead cats into the stream of history, and replied, in a stately fashion, that hardly recognizes the truth of Mr. Birrell's contention, that history has elements in it quite unscientific and yet of real importance.

How far History can be Taught in Schools.

I suppose we shall all agree that the science of history cannot be taught in schools. Professor Seeley's aphorism runs:—

> History without political science has no fruit;
> Political science without history has no root.

That is it; we cannot build up an inductive science without a store of facts, and in teaching history in schools, we cannot treat only such facts as bear directly on political science. An attempt is sometimes made to teach what is called "Civics." I have not had personal experience of this study, but, though doubtless it leads to some practical lessons, I should hardly suppose that it is really scientific, because it is usually taught to children who have an insufficient acquaintance with the general facts of history to enable them to really appreciate the scientific elements, if there be any. I came across lately an account of how they do it in America, in the Pratt Institute of Brooklyn. Some boys and girls are appointed editors of a sort of black-board paper. They arrive at school early enough to read the papers, and write on the board epitomes of all the larger news of the day, *e.g.*, the Cuban insurrection, troubles in the far East. Then the editors have to answer questions of history and draw maps, and be subjected to criticism by the whole school, very much like real editors. In the hall are ballot-boxes, returning forms, and polling-booths, used by the school in its annual election. The inventor of the system claims that it makes the girls and boys think. "When they get through, they can tell why they are Democrats, Republicans, Mugwumps, Socialists, or Populists, or anything else." We may, perhaps, be allowed to question whether Professor Seeley would admit this to be the science of history.

But a course of good history lessons, even in junior forms, may lay the foundations of political science. The child may gradually be trained to have some notion of what is meant by a state, some notion of its functions, some notion of what is meant by law. He may learn the meaning of some technical terms, without which no subsequent progress is possible. But he cannot understand them if it is taught merely notionally and by itself. It would then be merely an unprofitable exercise of memory. We cannot teach the science of botany without the flowers or the weeds before us. Similarly in history, to learn the functions of a state, the child must be shown their working by the aid of imagination; first, in the simplest form, in the lives of individuals and their relation to other people, then in classes of people, the barons, the clergy, the serfs, the traders, and their relations. To attain this, the past must somehow be galvanized into life. Nothing can be satisfactorily done till this is achieved—till the child realizes that he is dealing with practical matters and concrete facts, or, to use Carlyle's words, till he has in his mind "some picture of the thing acted." In a lecture I had the honour of delivering in this place some time ago, I pointed out how important a part geography has in bringing about this result. A good history lesson is thus often largely geographical. It sometimes turns to the history of language, and constantly deals with the meaning of words, which, in some cases, the child should be helped to evolve for himself. To bring out the reality of a period, many facts of social life must be taught—about dress, food, arms, trade, means of transport, amusements, and modes of life generally.

Is there any Use in Learning History?

Then comes the scoffer—the man who sits on a rail and talks while others teach—and he asks: "Is there any good in learning history? What are we aiming at?" "Why," he says, "heap up this ill-considered congeries of dates and gossip? Why litter up a boy's mind with the disorderly sweepings of an old curiosity-shop? What is the use of such history as is commonly taught and as commonly forgotten the week after? Better turn to something useful; something that will bring in money." And the teacher of little faith is impressed, and says to himself, "What is this history I am set to teach?

> 'It is a tale
> Told by an idiot, full of sound and fury,
> Signifying nothing.'"

The Uses of History.

The answer is that in these preliminary stages history is not a specialized study: it is a kind of general education, allied with geography on the one hand, and literature on the other. The specialist scientific historian looks at his facts only as they bear on his subject—the history of states. The teacher of children uses his facts not as ends in themselves, though I maintain that many facts in the history of our race or country are worth knowing, but as means of educating the memory, the faculties of attention, reasoning, and judgment, of awakening and training the imagination, of establishing an ethical standard, more especially a habit of accuracy and a regard for truth. Moreover, the facts he teaches are not valueless. Though many of our pupils are not likely to become professed historians, yet a knowledge of the principal facts of our history at least is necessary if a boy is to understand the books he reads, the conversation he hears, and take an intelligent part in his civil duties.

The Stream of History.

Let us illustrate this by a metaphor. We speak of the stream of history. Now a river has many uses. To the grown man it is the highway of his commerce. At its mouth he builds his dock-yards and harbours; by its waters he irrigates his fields; he pollutes it by his factories, and afterwards purifies and drinks it. He transmutes its force into electricity; he employs it as his agent in a hundred ways. For the boy it has other uses. To him it is mainly a delight. He learns to swim in it. He trains his muscles in a boat, he spends his holidays in fishing and in wandering along its banks. It trains his eye and hand; and who can describe its subtle influence on his character and mind?

The music of its waters, the song of the birds, the plash of the leaping fish, the sound of the wind among the sedges or the trees, the beauty, the stillness, who can measure their influence? And then the bird's-nesting, the rabbit-shooting on the banks, the countless ingenious romantic games that he devises with his companions! To the growing boy a river is at once an education and a delight. If we confine the term history to what Professor Seeley calls the *residuum* left after the specialized subjects of political science and economics have been subtracted, there is then some analogy between the study and the stream as I have described it.

The facts of history *per se* may not be of great importance, just as the natural history of squirrels and trout is not absolutely essential as a branch of education. But what advantages the

country-bred boy has over the town-bred boy! He has a mental horizon of which the other knows nothing. Wordsworth tells us that when he saw the daffodils on Lake Ullswater:

> I gazed—and gazed—but little thought
> What wealth the show to me had brought:
> For oft when on my couch I lie,
> In vacant or in pensive mood,
> They flash upon that inward eye
> Which is the bliss of solitude,
> And then my heart with pleasure fills
> And dances with the daffodils.

I say that there is something analogous in history. It gives an horizon. And, therefore, when we speak of the stream of history, let us bear in mind all the uses of the stream, and while endeavouring to turn it to commercial and political uses, let us not forget its poetry and human interest.

Now the first thing to do is to make our disconnected facts flow in a metaphorical stream, and the second is to make this stream a stream of living water, to make it real. Much may be done by pictures. You may remember how Dr. Arnold, one of the first and most influential of modern historians, gained a prize from his father at the age of three, for being able to give some particulars about a series of historical pictures that he had had explained to him. Much may be done by judiciously connecting history with geography.

Can Fiction be a Guide to Truth?

To-night we have to consider what may be gained, if anything, by calling in the aid of fiction. We are confronted with the difficult question, if history be the quest of truth, if one of its objects be to teach the weighing of evidence and the habit of accurate statement, are we not rather hindering than helping our study by employing fiction? I have endeavoured to answer this question by implication in the remarks I have been making on the nature of history. To history defined as the *residuum* after the purely scientific elements have been subtracted, the careful use of fiction is a help. "The mixture of a lie doth ever add pleasure," says Bacon, and I have shown that pleasure is one of the elements we need to awaken the historical imagination. Again, in what way does an honestly attempted picture in words differ from a painted picture? No one doubts the use of the latter, yet, like a picture in words, it can never set forth the whole truth, and may contain some errors.

Biography.

Let us examine the matter a little more in detail, and first let us take fiction as applied to biography. The chief value of this is of course to give vividness to character, to re-animate the individual. Shakespeare well expresses this, and the difficulties that attend it, in his Prologue to Act IV. of Henry V., when introducing the King:—

> O, now, who will behold
> The royal captain of this ruin'd band,
> Walking from watch to watch, from tent to tent,
> Let him cry—Praise and glory on his head!
> For forth he goes and visits all his host;
> Bids them good-morrow with a modest smile,
> And calls them brothers, friends, and countrymen.
> . . . . . Then mean and gentle all,
> Behold, as may unworthiness define,
> A little touch of Harry in the night.

That is the aim, "to give a little touch" that shall at least be realistic, and shall be as accurate as circumstances, or as he calls it, "unworthiness," admit.

The writer of fiction, it must be remembered, is an artist, not a necromancer. He cannot recall the dead to life, as the Witch of Endor recalled the Prophet; he can but give "the little touch." Nor can he do more if he is dealing with the living. An eminent theologian was once asked if he thought it probable that we shall be able to recognize our friends in Heaven. He replied, "Alas! how little able are we to recognize them here below."

Let us not, then, expect too much of the biographical novelist. Just now it is the fashion to try to analyse the character of the German Emperor. The newspapers are full of the subject. He is Frederick the Great: he is Bismarck: he is both, *dipsychus*, the two-souled. It is impossible to get to the truth. The historical novelist has this advantage over the dramatist, that he can, and often does, describe his characters at greater length, and give his own interpretation. But both are subjected to this difficulty: if the historical character occupies an important part, if he is in any sense the hero, he must be made interesting and effective, or the work will be a failure. Hence the temptation to invent, to set forth the striking side of the character, to exaggerate some virtue or defect, and to place him in circumstances in which he never was. The personal bias of the writer, too, is likely to creep in.

The Value of Shakespearean Plays.

We all know how Shakespeare treated history. He followed pretty closely a chronicle or Plutarch's "Lives." It was not his fault if these were untrustworthy, but he re-arranged the order of events and added new ones. With regard to characterization, he followed the general conception he got from his sources so far as he could, but he never let this interfere with a dramatic effect he wished to obtain. For mere facts of history Shakespeare had a supreme contempt; they were to him but the rough marble out of which he carved his living statues. The play most frequently acted, Richard III., is a mass of misrepresentation, both of fact and character, and in all, we may say, the historical truth is sacrificed to dramatic truth. Yet we feel that Shakespeare's plays have a value for the historical student, and that the saying of Pitt, that he had learned all the history he knew from Shakespeare, was not altogether absurd. What the plays of Shakespeare do is to show convincingly that the passions of human nature, its hopes and fears, and conscience, were as real in past times as at the present time. And this is, I suppose, what Pitt meant when he said that he had learned all the history he knew from Shakespeare's plays. We learn from Shakespeare not the real facts, but the reality of history.

The plays of Tennyson and Sir Henry Taylor are examples of careful historical work. They lack, however, the dramatic inspiration, and therefore fail to convince. It is not enough to be accurate. If the truth of history is to be flashed upon the mind, we must get to the soul of the character, we must work from within, as Shakespeare did. A mere enumeration of the looks, the habits, the dress, even the words and actions of a character, is not convincing. You will recollect how this mode of writing historical fiction is laughed at in Sheridan's "Critic." Mr. Puff and his critic, Sneer, are at a rehearsal of Puff's tragedy. "These are they," says Puff, "Sir Walter Raleigh and Sir Christopher Hatton. You'll know Sir Christopher by his turning out his toes—famous, you know, for his dancing. I like to preserve all the little traits of character."

This is a very ludicrous way of representing the method of painting a character from the outside. Mr. Puff gets no further, but there are many meritorious writers of historical fiction who do get further, but only on this method. Even when I read some of the most brilliant and meritorious living writers of historical fiction, I cannot help thinking of this sarcastic passage, and say to myself, of such and such a one of their historical characters, "Yes, I know him by the turning out of his toes."

But this has been said even of the great Sir Walter himself.

For his representation of a certain class of characters, specially of Scotchmen, and of men and women in positions of life which his shrewd observation of the life around him enabled him to paint, Scott is little, if at all, inferior to Shakespeare. But in dealing with great historical characters, specially in times long past, Scott is less successful. His Richard I., for instance, is a shadowy personage. His Cromwell has not the air of reality. Even his Louis XI., one of the most striking of his portraits, seems rather a cleverly devised puppet than a man.

To take one instance, there is more vitality about "Cuddie Headrigg" than "Claverhouse."

So great, then, is the difficulty of the task that I am inclined to say that the influence of the historical novel or play, in so far as it deals with biography, is misleading.

A writer of this class of work once told me that she never made an historical character in her novels do anything for which she had not some warrant in his recorded actions, or say anything which did not agree with his recorded words or opinions. How many take this pains? Very often it is impossible. But, in proportion as writers depart from this rule, in proportion as they allow their personal feeling to come in, and they paint Luther as a hypocrite, or Cromwell as a buffoon and traitor (as in a play popular a few years ago), or represent Mary of Scotland as an injured saint, in proportion as they exaggerate, falsify, or invent, their biographical pictures cease to be valuable as history (though they may possibly increase in value as literature), except in this one way, that they convince us that the people we read

about were once alive, though they do not show them exactly as they were.

I have been speaking of tales in which the historical characters play the chief part. There is another class of tale in which historical characters are introduced as a background or picturesque setting to a romantic tale, just as at Madame Tussaud's they have added a life-size representation of the execution of Mary Queen of Scots as an appetizing decoration to the tea-room. In such books the characters are naturally slightly drawn and on conventional lines.

The Revival of the Romantic Past.

A still more important function of the historical romance is to recall a past period, to paint the characteristics of a condition of society now passed away, to record a series of past events in their proper setting, their *milieu*, to give the very form and pressure of an age forgotten. Writing on this subject, Macaulay says: "A truly great historian would reclaim these materials the novelist has appropriated. We should not then have to look for the wars and votes of the Puritans in Clarendon, and for their phraseology in 'Old Mortality,' for one half of King James in Hume, and for the other half in 'The Fortunes of Nigel.'"

Such a novelist may give us a philosophical or religious atmosphere, as in "John Inglesant" or "Old Mortality," or "The Chronicles of the Schönberg-Cotta Family." He may carry us back to the age of chivalry and feudalism, as "Ivanhoe" and "The Talisman," and show us the castle and the monastery, the knight and the monk and friar, the vassal and his lord. Kingsley may paint the horrors of the Norman Conquest in "Hereward the Wake," or "the spacious times of Great Elizabeth" in "Westward Ho," or Thackeray may make us live over once again in the ornate society of Queen Anne in "Esmond." Here, again, let us beware of expecting too much. The painter of a period, like the painter of a person, cannot show us the whole. He is in the same way limited by the necessity of being picturesque and pleasing. Thackeray, for instance, can hint at the cynical brutality and profligacy that underlay the polish of the days of Queen Anne and the early Georges, and he does bring it out in a way that renders "Esmond" and "The Virginians" not the most suitable for young people, but he cannot put it with the fine uncompromising coarseness with which these good people put it themselves in their essays and poems. Or take the great Elizabethan age: do not all novelists conspire to praise it? Yet, if we read the memoirs, the essays, the satires of the time, we do not find it was a moral age or an honest one. Its bravest heroes institute the slave-trade. Roger Ascham tells us that

> To laugh, to lie, to flatter, to face

are the

> Four ways in Court to win men grace.

The plays of the Stuart period were so indescribably foul that they can only be read now when half has been left out and the rest expurgated. Nor can the novelist venture to set forth the *dullness* of some former periods. To live in a castle when there was no fighting must have been a dull affair, and when there was fighting it must have been a nuisance.

The fact is that the novelist sees the past a little out of proportion; he chooses a moment when the light is favourable. The noise of tumult has now long rolled away from the castle. Its mouldering walls are overgrown with ivy; it is the place for an archery meeting, a tennis tournament, or a school treat. The novelist takes tea there, or makes love perhaps, and projects his softened sentiments into the "backward and abysm of time."

Again, the novelist who deals with so large a subject can seldom be accurate in all respects. To begin with, there is the difficulty of language. To say "thou" instead of "you," to say you "wis" or you "ween" when you mean you "think," to swear "by the body o' you" instead of "on your honour," to say "by're lady," "oddsbodikins," and "i' faith," to invert the order of your words and omit the smaller parts of speech, will not enable you to write the language of the twelfth or any other century. Who ever spoke the language of "Ivanhoe" or the "Black Arrow"? Try to translate into this conventional language any modern phrase such as the modern hero would probably use, as "jolly old girl" or "he's awfully fit," and you will see how unreal it is.

The antiquarian details are not always to be trusted. Ruskin, you remember, says Scott is not to be trusted. "His familiar life," he says, "is inimitable; his quiet scenes of introductory conversation," and so on. "But his romance and antiquarianism, his knighthood and monkery, are all false, and he knows them to be false—does not care to make them earnest." Again: "He neither cared for painting nor sculpture, and was totally incapable of forming a judgment about them. He had some confused love of Gothic architecture, because it was dark, picturesque, old, and like nature; but could not tell the worst from the best."

What! Are the feudal castles of the "Boar of Ardennes" and of Front-de-Bœuf as unreal as the ghostly "Castle of Otranto"? Did the jolly laugh of the monk never peal through the refectory? Is it all false? If so, let the men of science give us a picture of feudalism that is better. Until that comes, I, for one, shall take the liberty of telling my pupils to read their Scott. The reconstruction of a past period by means of the imagination can never be wholly complete or accurate, nor need it be. Probably no two children gather quite the same notions, or have quite the same pictures before their minds, in reading "Ivanhoe." To make the past live in any manner so as to fill the imagination of generations of readers, to make them feel that England was not always a land of artizans and clerks and small shopkeepers, that there were municipal institutions before the County Councils of to-day, and religious buildings more beautiful than mission halls, this is to perform a work that is a help in teaching history, even though the scientific historian may have to ultimately reject it.

Modern Historical Novels.

I have dealt so far with works of the first rank, which do succeed in flashing upon the inward eye some more or less accurate pictures of a distant period. Of late years the composition of historical tales has taken a somewhat different form. In Scott, Thackeray, Kingsley, and others of the first rank, the romantic and historical elements are inextricably mingled. The heroes and heroines are people of the time, influencing and influenced by the *great* events of the time. I want you to notice this point, for it is an important element in determining the value of such books in teaching history. Scott generally makes his characters move among the great events. Consider with what masterly perfection of touch John Inglesant is mixed up with the plot, or supposed plot, to bring Irish rebels over to crush the Parliament, or how Amyas Leigh, in "Westward Ho!" is connected with all the great events of Elizabeth's reign, how skilfully the story of Henry Esmond is mixed up with that of the Old Pretender, and that of the young Virginians with the events of the Seven Years' War, with Washington and Wolfe.

In the more recent tales, beginning with Stevenson's "Black Arrow," I note a tendency to treat the history merely as a background to a romance of adventure. Generally speaking, some back-water of history, not very important in itself, is selected, such as offers an opportunity for romantic episodes and slashing bravery. The result is to make such unimportant events bulk disproportionately and distort the young reader's general notions of the period. Moreover, the main thread of history, if brought in at all, is kept so distinct from the romantic narrative that, as a youthful and very candid pupil of mine confessed the other day, "One can always skip it, Sir!"

The romantic narrative in such books generally treats the adventures of a young English lad, sometimes two, and a young girl. The latter is generally rescued from several situations of extreme peril and in the face of enormous odds. The youthful hero kills a great number of Frenchmen or Spaniards, seldom less than three or four at a time. The place reeks with the smell of blood. Here is an advertisement of one of the best of these books, one of Mr. Stanley Weyman's. The advertisement says: "Incident succeeds incident with exciting rapidity; we are always breathless; yet the end is the inevitable wedding."

Now, in real life, and in the history of real life, incident does not succeed incident with exciting rapidity. And, if we are always breathless while reading such high-pressure history, really, for the sake of our health, I think we ought not to read too much of it.

I have no objection to the young lad and his lady-love:—

> On grass, on gravel, in the sun,
> Or now beneath the shade,
> They went, in pleasant Kensington,
> A 'prentice and a maid.

If they like to go to the wars instead, they can do so. What I do ask is that these young people should belong to their age, and not, as is generally the case, to the age of bicycles and Kensington Gardens. "Heroes are much the same," says Pope, and I am sure it is true of the heroes of modern historical novels.

Let me read you an example of a hero and heroine that do belong to the time in which they live, and do not come straight

out of Kensington. The story is a very slight one, but it is a model story. The author knows his subject, he is in sympathy with the characters he draws, and he knows that life is not all adventure, and that if a writer is to represent history truly, he must show us not only the fighting and the love-making, but the spiritual and poetic atmosphere that envelopes the life he describes and makes it possible.

The Lecturer then read a passage describing the return of a wounded Puritan to his home, by Charles Kingsley, in "Plays and Puritans," and concluded with the following practical suggestions:—

1. To kindle the imagination, it is better to take the most vivid and interesting narrative or play, rather than one that is less interesting, though more accurate. The latter will not attain the object desired, for the history will be skipped, or, if forced on the reader, will bore him.

2. Some help is necessary in the case of Scott and Kingsley: words and allusions need explaining, and, more important, the initial difficulty and heaviness has to be got over.

3. But the lesson must not become merely a literature lesson, as it has a tendency to become. Something can be done by the teacher, by drawing attention to the historical elements; only let him beware of making the children sceptical: that will come soon enough without his aid. He may well ask from time to time, what events, claiming to be historical, are noted in the novel that are not found in the school history; what facts may be learned from the novel about the art of war, about the formation of armies, about ships, what facts of social life, amusements, dress, food, &c. It is very useful to illustrate some description on the black-board, to draw the plan of a monastery or a castle or a field of battle. Other questions, as of characterization, will easily suggest themselves, it being always borne in mind that while the novel is primarily used to excite interest, it is not to be used to excite merely a vague indefinite pleasure.

4. We should recollect that many historical tales that do not appeal to us do appeal to the young, and it may be well to secure their co-operation by giving them access to them. I find, myself, that most boys will not willingly read Scott by themselves, though with a little help, and perhaps a little pressure, at the beginning of a novel, they take warmly to him. Such writers as Henty, Conan Doyle, Talbot Reed—whose early death all lovers of good boys' books deplore—Miss Roberts, the writer who calls herself Austin Clare, and others, many of whose names and books you will find in a list written by Mr. Courthope Bowen, appeal more directly to the young, though here, too, the history portion requires a little help from the teachers to prevent its being skipped.

5. Our object is to teach the boys to read: selected passages should be read in class, and their principal points noted. The main part should be done out of school.

It may be asked: Would you then allow the use of any historical novel; is there no principle of selection? Well, I doubt if life is long enough to enable us to select very exhaustively. What I should seek would be, firstly, force and vividness; secondly, accuracy; thirdly, sympathetic treatment. I should prefer a broad general historical subject rather than an historical detail. I do not in the least mind a little prejudice on the part of the author, provided he does not wilfully malign the opposite party. I think, as Mrs. Malaprop said: "It is as well to begin with a little aversion." I am thinking of a preface to a recent historical novel in which the author boasts that he has been equally fair to both Cavaliers and Roundheads. He goes on to say that he has pointed out that there were faults on both sides. Now this is *not* being fair to either side. Such a critical attitude seems to me to take all the bloom off the peach. If we are to kindle enthusiasm, we must be enthusiastic. You may find novels in which antiquarian details are more accurate, or the facts of history are more accurate, or the biography is more truthful than in Scott and Kingsley; but these writers have the style, the poetry, the high and strenuous endeavour, the warm sympathy, the wide outlook that stretches almost beyond our power of vision, and these are the qualities that are necessary to kindle our imagination, and to make us see that fact is as interesting as fiction.

Dr. Hiron remarked that in the hands of a thoroughly skilful teacher the historical novel might be of great use, and help to arouse in the child's mind sufficient interest to induce him to study the history of his country after he had left school. There were, of course, limitations to its use. The historical novel, of necessity, would cover only a very limited period of the history, and it required great care on the part of the teacher in order that it might be really useful as well as interesting, especially as it would be practically impossible to cover in this way all the history required for the purposes of examination.

Mr. Smurthwaite said that it was futile to attempt to teach history by getting the pupils to learn by rote lists of dates and events, but the children's interest could easily be aroused if the teacher would take the trouble to work up each lesson into the form of a story. He himself had tried this plan with the happiest results, and had found the boys after such a lesson eager to follow up the story.

Mr. Orchard remarked that the reader of the paper had shown that history and romance were different things, and so different as to be opposed. It had been pointed out that, whilst history fostered love of truth, romance either made use of unreal materials invented for the occasion, or distorted such as were true. History aimed at knowledge, and the pre-requisite of knowledge was truth; romance aimed at entertainment, for which the pre-requisite was something stimulating, exciting, no matter whether true or false. In so far as a story was history, it was not romance; in so far as it was romance, it was not history. Allusion had been made to Shakespeare and Scott; but the purpose of these writers was not to teach history, it was rather to produce dramatic effect. The teacher should bear in mind the classic saying: "Maxima debetur puero reverentia." What would not be called history when offered to adults ought not to be so called when offered to children. Romances, if presented to children at all, should be presented as romances, not as history. Unless this precaution were taken, the child's ideal of truth might be weakened. Further, the untruth would either remain in the memory as a mental corruption, or, the fraud being discovered, the pupil's confidence in the teacher's veracity would receive a shock by no means conducive to educational progress. Children, moreover, had a knack of remembering the romance and forgetting the history.

The Chairman said it had been stated that all history was a traditional lie, that fairy tales were not true, and that all romance was exaggeration. Yet it was not denied that from all these sources some benefit might be derived by the rising generation. He would not go so far as to say that history must be true; for he thought that when the history of our own time came to be written, if we could read it ourselves many of us would deny the truth of it. Those who wrote history could not rid themselves of the tendency to decry what did not please them. They were human, and could not write what was absolutely true. He thought they would all agree that the purpose of teaching history was not to crowd the memory with the facts and events of the past, but rather to draw from them lessons for guidance in the future; and it was the teacher's duty to endeavour to use the materials at hand to the attainment of this object. But there was another object to be attained by the teaching of history, viz., the development of patriotism in the rising generation. Mr. Morley once said that in this country we had handed over to the working classes a power no other country had given without some restraint. We relied on the working man in the future, and everything depended on his being patriotic. It was therefore essential to foster a spirit of patriotism, and this could not be done without a knowledge of history. It was not possible during school life to go into the study of history as deeply as they would desire, but they must endeavour in the short time at their disposal to inculcate in the minds of their pupils a desire to continue the study later on, for it was only after school life that it could really be pursued to advantage. With regard to examinations, he thought that, if the questions were drawn up with a view to ascertaining the judgment formed by the pupils of the character of men and their actions, we should have history taught in a much better way than it had been of late years.

A vote of thanks to the lecturer concluded the proceedings.

MASTER AND PUPIL.

The following essay on the relations that should exist between masters and boys was written by a sixth-form boy in a public school. Though the point of view and the experience implied are necessarily somewhat limited, there must be a certain interest to schoolmasters in this candid criticism by one of their subjects.

"There is only one relation between himself and his pupils at which a schoolmaster should aim, and that is love. 'A piece of impossible sentiment,' cry many—unselfishness in nations. Nevertheless it is the bond which has always existed between great teachers and their disciples; and the position of a master to his disciples is certainly that which a teacher should endeavour to establish in his form. And it should not be difficult. Boys love with far greater ease than do men: my belief is there is nothing which boys are readier to do than to love. It is seldom, however, that a schoolmaster does consider it his duty to gain the love of his pupils. Very many, I think, are quite content if they can keep fair order in the form, and force the boys to a certain amount of unwilling labour. Some, I am certain, regard school-hours with exactly the same aversion as do their hardly-used pupils. I have heard schoolmasters declare an absolute detestation of the boys they are supposed to teach. To such men it would seem a wild dream to suppose it possible to secure the love of their form. It

must be confessed that, in such cases, it would indeed be nothing but a wild dream.

"It is, of course, in the first instance, nothing but a matter of government. A master who can govern his form will never be reduced to hatred of his boys, nor his boys to contempt of him. But government is a means, not an end: those who make it an end will always have to do what teaching they can, which will be little, and of the most futile nature, either by fear, or by constant punishment, or by wearying personal supervision, or by whatever other imperfect means they secure an imperfect order. 'Trust your boys' is the gushing cry of some schoolmasters, a maxim of government at which, from my superior position of boy, I have always taken the liberty to laugh in my sleeve. You may trust boys who are trustworthy, of course. But when boys are trustworthy, government is secured; and it is the height of folly to trust boys who are not trustworthy. In nine cases out of ten, moreover, the boys know perfectly well that they are not trusted, and by no sign better than that they are constantly hearing that their master trusts them in this, trusts them in that. If their master trusted them in truth, they know they would not be so often reminded of it.

"It appears obvious that boys should not be trusted until they desire the confidence of their master as a matter of course, requiring no comment. And if they do not so, a schoolmaster with high aims would surely consider it his duty to make them, not by giving them cause to consider him a fool for trusting them out of season, but by engaging their affections and teaching them higher notions of honour. Many young teachers, I believe, make the one hardly remediable mistake at their first introduction to their form—that of commencing with a mode of treatment, either of trust or mistrust, severity or leniency. At that nervous moment a teacher has often to take his pupils' word about the methods of the school. His attitude to them then must often decide whether he will ever govern these boys or not. He perhaps assumes that they wish to mislead him, and so incurs their dislike; or, worse still, on finding that he has been misled, he treats it as a joke, merely from weakness, and incurs their uttermost contempt. The boys, on the other hand, never make this mistake. They never assume any attitude towards the new master until some word or action of his has enabled them to fathom him.

"If I were introduced to a form of boys whom it would be my duty to teach, I would first of all endeavour to let each and all know I was their master, not by severity or leniency, but by justice. I should assume, in the first place, that they were treating me in good faith. If I found that they were not, I would take care that their laugh should be one of chagrin. If much punishment were necessary at first, I would be ready to sacrifice all my spare time in order to deprive contumacy of the least shadow of enjoyment. Three or four days would be sufficient with the most mutinous of forms. By that time I should have acquired the respect of all the boys with heads on their shoulders, and the fear of the louts and fools. When I had gained the respect of the form, I would turn my attention towards the boys who had shown the greatest sense, and do what I could to secure their liking. This should be perfectly possible for any young master who is eight or ten years older than his boys. He should be a frank and amiable comrade out of school, where he should treat them merely as young friends, allowing any amount of fun and freedom which did not lead to liberties; always ready with help or sympathy; always eager to show how much he appreciated their friendship and confidence. He would so secure not only their liking, but their willing admiration: and in the case of many of the better boys the bond would grow to love.

"When he had made himself a centre of hero-worship to his form, he would be in the best position to teach. Boys will listen to a man they respect when there is nothing better to do; but from a man whom they admire, and unconsciously regard as a model, they will learn, and imbibe in the best sense of the word, during every minute of contact with him."

FACETIÆ PRÆPARATORIENSES.

It is not an easy matter to decide, especially from written answers, whether a pupil is doing his best and has got fairly out of his depth, or whether he is taking shots in order to avoid using his brains. The old-fashioned plan of marking results as right or wrong, without attempting to investigate processes, had a kind of rough justice about it, but bore hardly sometimes upon a boy who might be doing his best to accomplish a task too hard for him. Possibly the classification of the following answers, collected during many years' experience of preparatory-school work, may form a useful exercise for an aspiring student of the philosophy of education. Which may be assigned to pure muddle-headedness, which to misplaced ingenuity, which to a touching adherence to the infallibility of the dictionary, is matter of doubt.

"Mene huic confidere monstro?"—"Do I show myself to confide to him?" "Attollens lumina fatur."—"Raising he speaks to the stars." "Ratibus et lintribus junctis."—"On rafts, boats, and junks." "In casas."—"In some cases." "Spolium opimum."—"Spoiled parsley." "Hei mihi! qualis erat."—"Lo is me whoever he was." He pressos a snake *aspris sentibus*, "with rough feelings." "Quæ finis standi."—"To what end must I stand." "Devicto Hannibale, Pœni do salute desperabant."—"I conquered Hannibal; the Carthaginians were despised on account of health." One rendering has a sad ring in it for schoolmasters who desire to be something more than mere gerund-grinders: "Philosophus divitias minimi facit," "The philosopher makes not any riches."

But he has his consolations.

The misplacement of one letter has sometimes a happy effect, as when one reads of Balearic "stingers." "Hæc timuit præcipitem Africam," "Nor did he fear being precipitated into Africa," is a sentiment which probably influenced the mariners of Horace's day; while the following rendering is suggestive rather of the sea than of the dry land: "versam vomere terram," "land turned up to vomit." Here, again, are two which date from the Jubilee year. "Conveniunt, celebrantque dapes vicinia simplex."—"The poor from the neighbourhood come and celebrate the feasts." "Nec queritur lactens cum sibi porca datur."—"Neither seek thou milk when pork is given thee." Answers to questions in English lend themselves, perhaps, more easily to classification. "Who was Cardinal Wolsey?"—"He fited in Egypt for the Queen."

The following answer is remarkable alike for its history, its theology, and its spelling. "The Septennial Act was that roman chalolich should not be enjured by the christians." New geographical information is sometimes interesting, as that Tamworth is famous for its "statute of John Peel," and teetotallers will be interested to hear that a town in the Midlands, famous for its medicinal springs, is—Burton-on-Trent. An ingenious definition of civil war is the following:—"The same nation has two sides and it fights against each other." The truth of a statement, however obvious, does not always render it satisfactory from a schoolmaster's point of view; as when I read that certain Gauls "placed their camp less than two hundred miles from Cæsar's," which was not improbable; or when a (temporary) German master hauled a boy by the ear into my study, exclaiming, with not unnatural wrath: "He call me dirty dog!"

William of Deloraine would doubtless have been surprised to hear that "a moss-trooper is a fairy," or John Wesley that he was a "cobbler by trade"; while those who are fond of tracing the influence of heredity may find subject for thought in the statement that "the Herodians were descendants of Herod and the Pharisees were the descendants of Pharaoh." Altogether, in spite of the drawback mentioned above, schoolmastering has its consolations for the philosophically inclined.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A Meeting of the Council was held at the College, Bloomsbury Square, on the 16th of October. Present — Dr. Wormell, Vice-President, in the Chair; Rev. R. Alliott, Mr. Barlet, Rev. J. O. Bevan, Mr. Bidlake, Mr. Brown, Mr. Butler, Mr. Charles, Miss Dawes, Miss Day, Mr. Eve, Mr. Harris, Rev. Dr. Hiron, Miss Jebb, Mr. Montgomery, Mr. Reynolds, Mr. Rule, Rev. W. J. Savell, Mr. Sergeant, Mr. Stewart, and Mr. Walmsley.

The minutes of the last meeting were read and confirmed.

Tuesday, the 28th of June, was fixed as the date of commencement of the Midsummer Certificate Examination in 1898.

It was resolved that arrangements should be made for holding a Holiday Course of Educational Lectures in the first fortnight in January next.

The Diploma of Associate was granted to Miss A. Watson, who had passed the required examination.

The report of the Finance Committee was adopted, and it was resolved to abolish the extra fee at present charged for the oral examination in French and German, and for the examination in practical chemistry, and to raise the fee for the Certificate Examination to half a guinea.

The report of the Examination Committee was adopted, and it was resolved—(*a*) That Algebra and Euclid be included in the list of alternative obligatory subjects for a First Class Certificate; (*b*) That one of the subjects—Bookkeeping, Mensuration, Shorthand, Political Economy, Domestic Economy—be allowed to stand as one of the six obligatory subjects for the Second Class.

The report of the Teachers' Training Committee was adopted.

The report of the representatives of the College on the Joint Agency Committee was approved.

The following persons were elected members of the College:—

Mr. H. B. Brown, A.C.P., Larchfield Academy, Helensburgh, N.B.
Miss M. F. Chappell, 96 Grove Road, Holloway, N.
Mr. J. Eley, 31 Cornwall Road, Stroud Green, N.
Miss K. Holman, A.C.P., 2 Beckenham Grove, Shortlands, Kent.
Miss S. A. Kendrick, A.C.P., 17 Castle Street, Worcester.
Miss A. M. M. Thurnham, Hyde House, Tollington Park, N.
Rev. T. H. Twist, M.A. Camb., 328 Renfrew Street, Glasgow.

The following books had been presented to the Library since the last meeting:—

By the Rev. J. O. Bevan.—Davies and Bevan's Archæological Survey of Herefordshire (Mediæval Period).

By the Authors.—Ellis's The Christ in Shakspeare; Ladell's Short French Examination Papers in Grammar and Idiomatic Sentences.
By the Agent-General for New South Wales.—Coghlan's Wealth and Progress of New South Wales, 1895-6, Vol. 1.
By Blackie & Son, Ltd.—Näf's Comprehensive French Manual; Rey's Complete Course of French Composition and Idioms; Stevens' Junior Latin Syntax.
By C. J. Clay & Sons.—Adam's Plato's Republic; Boïelle's Biart's Quand j'étais Petit (Part II.); Edwards' Xenophon's Anabasis, Book III.; Fairweather and Black's First Book of Maccabees (Cambridge Bible for Schools); Glover's Olynthiae Speeches of Demosthenes; Jebb's Sophocles; Verity's Shakespeare's King Lear.
By A. M. Holden.—Christian and Collar's New Arithmetic; Lane's Junior Algebra.
By Macmillan & Co.—Houghton's Michaud's La Première Croisade.
By Sisson & Parker.—Sisson & Parker's Geography by the Eye, Standard V.
Calendars of University College, Liverpool, 1897-8; Royal College of Surgeons of England, 1897.

REVIEWS.

Thomas and Matthew Arnold.

Thomas and Matthew Arnold and their Influence on English Education. By Sir Joshua Fitch, M.A., LL.D. (Heinemann.)

Sir Joshua Fitch has closely studied the history and condition of secondary education in England, and a book by him on the two Arnolds carries with it, in the expectation of all teachers, primary and secondary, the promise of exceptional interest. The book is characterized by a genuine admiration of the men of whom the author speaks, a close sympathy with their aims, an urbane and judicious mode of expression, and an underlying enthusiasm for educational progress, which suggests a buoyant youthfulness of hope and faith, joined with the wisdom of the experienced observer and thinker. It is not a book to discuss some "new thing." It is rather the presentment of the two Arnolds, as educators, to the public of teachers.

Sir Joshua clears the way for an appreciation of Thomas Arnold by pointing out his limitations. In considering Arnold's "extra-scholastic" interests, the author observes:—

> It is noticeable there is little or no evidence of any interest in what is generally called "art." So, too, in another place, it is pointed out that Arnold had little sympathy with the claims of physical science. But with science, as that organized systematic knowledge which "implies insight into reasons, causes, consequences," Arnold was clearly at home. The scientific spirit was present with Arnold if you may say that "the action and significance of the Greek aorist, or the laws of the Greek aorist, or the laws of the syllogism belong to the domain of science."

Further, Arnold was no educational theorist. He would not have been interested in the study of Fichte, Kant, and Herbart, as educationists.

With a man deficient in appreciation of art, science, and educational theory, it might be expected that the old traditional subjects of the classics would be the staple of instruction. Sir Joshua traces very skilfully and convincingly the education of Arnold and the traditions which he entered into of the old public schools of Winchester and of Rugby; how early he became an Aristotelian, in the sense that he sought to make all speculative inquiry subservient to the solution of practical problems; his friendships at Oxford; his domestic life at Laleham, and the teaching and study there of Greek and Roman history. Looked at from the point of view of subjects, nothing is more suggestive in Sir Joshua Fitch's book than the account of Arnold's teaching of ancient history. He would connect events recorded in Thucydides and Tacitus with modern history.

> A discussion on the περίοικοι of Athens leads him to a comparison with the burghers of Augsburg or the unenfranchised commons of England. He thus regards much of ancient history as having an essentially modern character, and brings out the mental discipline by the comparison of modern with ancient political problems. Arnold's teaching of geography, too, was vivid and noteworthy. He regarded it as an adjunct to historical teaching. For the rest, Arnold's curricula were the customary classics. But, as a matter of fact, Arnold is not to be regarded as a great teacher, in the sense of instructor. The essential characteristic of Thomas Arnold, as has been pointed out by Dr. Percival, is that he is as "an inspired prophet, preaching to every schoolmaster the soundness of his calling, and bidding him always remember that promotion of character is the primary aim of every good teacher."

Sir Joshua's account of Thomas Arnold in connexion with the Reform Bill, the Society for the Diffusion of Useful Knowledge, and mechanics' institutes, is extremely suggestive. It shows the social impulse of Arnold, his close sympathy with the poor, and the elevating influence upon the mind of mixing with the poor, not only as a duty, but also as a privilege. Arnold's attitude towards the Oxford Tractarian movement, and towards the London University, is carefully and judiciously described. There is a clever and suggestive section: "Conjectures as to what might have been had he lived," in connexion with popular education. It is, at any rate, interesting that he had as son-in-law Mr. W. E. Forster. Sir Joshua's account of Thomas Arnold reminds us of Dr. Percival's description: "As is found to be the case with many strong characters, his sympathies and tastes ran with the force of a mountain torrent in a few distinctly marked channels."

Turning to Matthew Arnold in his work for education, it might be said, *Qui facit per alium facit per se.* He was, we are told, for a brief period a teacher of classics at Rugby. But from 1851 to 1886 he was one of Her Majesty's inspectors. His official work was "uncongenial and wearisome." In 1854, he writes: "I more and more have the feeling that I do not do my inspecting work really well and satisfactorily." But, diffident of himself as he was, we are told: "If he saw little children looking good and happy, and under the care of a kindly and sympathetic teacher, he would give a favourable report, without inquiring too curiously into the percentage of scholars who could pass the 'standard' examination. He valued the elementary schools rather as centres of civilization and refining influence than as places for enabling the maximum number of children to spell and write, and to do a given number of sums without a mistake." Mr. Healing's account of the way in which Matthew Arnold inspired and encouraged teachers to direct themselves to higher education, and especially the study of literature, shows his great influence and usefulness even as an inspector.

Finally, as to secondary education, Matthew Arnold was a voice, as he himself put it, like that "of one crying in the wilderness." This was his cry, "*Porro unum est necessarium.* One thing is needful. Organize your secondary education." Whatever else is before us in the future of our secondary schools, the spirit of moral fervour in Thomas Arnold, and of literary fervour in Matthew Arnold, cannot fail to cheer and guide those who will have the direction of them.

In putting down this book, written with all a craftsman's skill, a book in which the conspicuous educational wants of this century are described with that warmth of soul, and that clear-headedness as to the issues involved, which we always look for in Sir Joshua Fitch, and never look for in vain, we feel that a real service has been done to educational politics. For whosoever will read it—teacher or layman—will be taken on to a plane of thought which is above parties, and yet recognize that the spirit of religion which was in the educational work of Thomas Arnold, and the "sweetness and light" of which Matthew Arnold was the practical example, as he was the theoretical exponent, have still to be counted with.

Historical Greek.

An Historical Greek Grammar, chiefly of the Attic Dialect, as Written and Spoken from Classical Antiquity down to the Present Time. By A. N. Jannaris, Ph.D. (Macmillan.)

The propitious appointment of Dr. Jannaris as Lecturer on Post-Classical and Modern Greek, at the University of St. Andrews, has enabled him to complete this invaluable historical work on the grammar of Greek, which he had begun some years before his removal from London to the north. Dr. Jannaris is one of the riper products of that modern Greek scholarship for which those who deny to contemporary Greeks any considerable share in the patrimony of the ancient Greek intellect and culture must be at a loss to account. But let that pass; here, at any rate, is a cumulative grammar of the language which has been spoken continuously in south-eastern Europe and Asia Minor for 2,500 years, and it will be warmly welcomed by every student of Greek. If it did no more than collect, with infinite labour, the varying forms of ancient and modern morphology, through the successive phases of classical, Hellenistic, Greco-Roman, Byzantine, mediæval, and Neohellenic diction, tracing the modification step by step from the tongue of Sappho to the tongue of the nineteenth-century Athenian—differing from each other barely as much as Tennyson differs from Chaucer—Dr. Jannaris would still have given us a work of great linguistic value. But he has spared no pains to make his exposition complete; his apparatus is abundant and remarkably effective, and he neglects nothing that will illustrate the characteristic genius of the language. His chapters on the phonetic symbols and pronunciation, on tone and general phonopathy, on the salient features of etymology, word-composition, and syntax, on accent, quantity, and the evolution of modern forms, are all of the highest interest.

The leading idea of the author in writing his "Historical

Grammar" seems to be this: that we cannot fairly or usefully compare the modern Greek, either in orthography or in phonology, with the classical forms, until we have gained a full insight into the structure and sound of ancient Greek, with all the intermediate phases. That, of course, is the only true historic mode of comparison, and the special service of the present work is that it greatly facilitates the process for Englishmen, as the works of E. A. Sophocles and G. Hatzidakis have already facilitated it for readers of modern Greek. Dr. Jannaris points out that the "artistic" form of Greek, which we are agreed to call classical, "perhaps at no time reflected faithfully the living language of the people"; but, such as it was in the fifth and fourth centuries before Christ, and subsequently as a literary model, it was stereotyped—especially by fugitive Greeks after the fall of Constantinople, and by their Western pupils—in the guise of a "dead language," with its traditional pronunciation stripped away. Out of the unresisting *corpus* thus handed over to them for dissection, the Western scholars and teachers, during the revival of learning, proceeded to build up an edifice, according to their lights, with ingenuous and even heroic goodwill.

Being cut off from all direct connection with ancient Greek, from all assistance and advantage offered by the surviving tongue, and finding utterly insufficient the traditional *compendia* handed over to them, they began to construct a Greek grammar on a novel basis, by laying under contribution the mute ancient texts, and adapting their system to the principles and the spirit of their own tongues, that is to the principles of alien languages; just as we are now constructing a grammar of old Egyptian on the basis of the hieroglyphics, and after the spirit of modern languages.

Nevertheless, we must do justice to our earlier teachers of Greek, not excluding the much-criticised Erasmus, to whose plan of pronunciation Dr. Jannaris tells us that he became a "sincere convert" in the German Universities, though he has now abandoned it. They had to make bricks without much straw, and made them fairly *tetragonoi*. The "Keye-eree Heteye-eree" model will die very hard in England, but it will die none the less. Good reasons for thinking so will be found in the first part of this "Historical Grammar," which we commend with all possible emphasis to English Hellenists. Dr. Jannaris has shown us a path in which some of our younger Greek scholars might be better occupied than in worrying the gnawed bones of *variae lectiones*.

English Literary Studies.

(1) "Handbook of English Literature." Edited by Professor Hales.—*The Age of Tennyson.* By Hugh Walker, M.A. (Bell & Sons.) (2) *A Primer of Wordsworth: with a Critical Essay.* By Laurie Magnus, B.A. (Methuen.)

(1) Mr. Walker takes his "age" as extending from 1830 to 1870. In the first year Tennyson was barely known as the author of a Cambridge prize poem, and of part of a volume of "Poems by Two Brothers"—but the age was already his in the sense that it was the age which produced him, and that in poetry he was its destined master. Again, he lived and wrote after 1870, but new influences were at work, and the essential features of English poetry were from that moment becoming rapidly changed. Thus there is no reason to object to the limits which have been fixed. Mr. Walker's plan fairly harmonizes with that of his predecessors in the same series, in that he dwells mainly on the thought and work of the greater men, and does not trouble himself very much over the minor writers. He is naturally compelled to be even more exclusive than Mr. Masterman was in "The Age of Milton," or Dr. Garnett in "The Age of Dryden;" and to fiction writers, in particular, he has shown scant mercy. In spite of such names as those of Tennyson, Browning, Carlyle, Dickens, Thackeray, the Brontë family, Macaulay, the Arnolds, Froude, Newman, Kingsley, and perhaps a dozen more, the notes of variety and mediocrity are conspicuous, and nowhere more so than in fiction. But it is clear that Mr. Walker has more than ample material for a small volume in the great men and women whom we have mentioned. Such a book could not fail to be interesting, and Mr. Walker has used his opportunity to good purpose. His analysis displays much penetration and critical acuteness. The estimate of Dickens, for instance, is perhaps essentially right and just, being a fair middle term between the exaggerated praise of his contemporaries and the equally exaggerated detraction of such as compare "Bleak House" and "David Copperfield" with the standards of to-day.

(2) The warmest admirers of Wordsworth cannot complain of the attention recently devoted to him. He has been studied, annotated, commented on, and reprinted, in whole or in part, in at least twenty volumes within the past half-dozen years. It is not long since the appearance of Professor Herford's "Age of Wordsworth," and only last month we noticed a guide to Matthew Arnold's "Study," and a short selection from Wordsworth's poems. Mr. Laurie Magnus takes the field with a somewhat ambitious study, and one which justifies us in forming a good expectation of his future work as a commentator and an English critic. His "Primer" is a detailed examination of Wordsworth's poems, founded not merely on the judgments of previous writers, down to Professor Legouis and Mr. Herford, but also on a personal estimate of the whole literary work of the poet, prose as well as verse. His comments strike us as shrewd and pertinent, and the "Critical Essay," with which his volume concludes, is marked by a very definite and sympathetic appreciation of the method of Wordsworth. In an age of disillusion—"dans les années les plus déshéritées de la poésie anglaise," as Legouis says—

Wordsworth came down to the fields and works of men, and touched them with an enchanter's wand. He aroused, in Shelley's phrase, "a sort of thought in sense." He shed, in Matthew Arnold's language, "On spirits that had long been dead . . . the freshness of the early world." He added contemplation to sight and hearing, so that he renders for us, not the literal features of things seen or heard, but the secondary being through which their influence is poured. His method was neither categorical nor pictorial, but interpretative—"a hill implied a vale beyond, with that vale's history"; a "primrose on a river's brim" was "a lasting link in nature's chain from highest heaven let down"; the cuckoo was "no bird, but an invisible thing, a voice, a mystery."

Strange that the same Wordsworth, in his deliberately adopted system of verse-making, should have "utterly rejected" the "personification of ideas," should have "taken pains to avoid poetic diction," and embraced bald statement as a poetic virtue.

Mr. Magnus's "Primer"—we do not like the word as he has used it in his title—is very helpful, and a reader who comes fresh to the study of Wordsworth will find that it thoroughly answers his purpose.

French Literature.

"Short Histories of the Literatures of the World." Edited by Edmund Gosse.—*A History of French Literature.* By Professor Edmund Dowden, D.Litt., &c. (Heinemann.)

We expected a great deal from Mr. Gosse's excellent design of a series of substantial volumes devoted to the various literatures of the world, and we are perfectly satisfied with the result so far as it has been attained. Nothing could have been better than the selection of authors for the first two volumes. Perhaps no one could have written a more genuinely interesting and valuable account of ancient Greek literature than Professor Gilbert Murray, whose work we noticed earlier in the year; and it may be doubted if a more genial and discriminating writer could have been found for the history of French Literature than Professor Dowden, who is not merely a doctor of five Universities and a professor in a sixth, but also, what is much more to the point, an accurate and a sympathetic student of the subject which he has undertaken. The sympathy which we have noted as so conspicuous a feature in Professor Dowden's book is not by any means a general and enthusiastic sympathy for all things French, but rather that more wholesome and legitimate appreciation of the best essentials of the Gallic and Gallo-Roman genius which enables the author to lay his hand, with almost unerring instinct, on the sterling, original, and characteristic authors of France, and to be content with a simple chronicle of those who are less distinguished by imagination than by neo-Latin form and dignity. Few Englishmen—to give an example of what we mean—can grow fervid over the merits of Corneille or Racine, grand as they often are in their dramatic conventionalities. Professor Dowden does them justice, but does not wax warm in his admiration, as he does wherever the spark of true genius awakes a responsive flame of literary inspiration. In such discrimination as this the prevailing influence is not prejudice, but a strong and intelligible attraction towards the human rather than the merely "humane," towards the outward expression of the kindled soul (however kindled) rather than the cold utterance of an academic thought. Nowhere is this attraction more piquantly illustrated than in the parallel treatment of Calvin and Rabelais, two utterly contrasted writers, yet both inflamed by a fire which consumed themselves and illumined the world.

Rabelais loves goodness, charity, truth; he pleads for the right of manhood to a full and free development of all its powers; and if

questions of original sin and divine grace trouble him little, and his creed has some of the hardihood of the Renaissance, he is full of filial gratitude to *le bon Dieu* for His gift of life, and of a world in which to live strongly should be to live joyously. . . . The pale face and attenuated figure of the great Reformer, whose life was a long disease, yet whose indomitable will sustained him amid bodily infirmities, present a striking contrast to the sanguine health and overflowing animal spirits of the good physician who reckoned laughter among the means of grace. Yet Calvin was not merely a Reformer: he also was a humanist. . . . The generous illusion of Rabelais, that human nature is essentially good, has no place in Calvin's system. . . . In the days of the pagan Renaissance, it was well for France that there should also be a Renaissance of moral vigour; if freedom was needful, so also was discipline.

The sympathy, it will be observed, is for the men who felt as well as thought; and we may add that the charm of this book lies in its sympathy with the authors who feel rather than its approval of those who write well.

Our illustration has been taken from the chapter on the "Renaissance and Reformation"; and the whole of the second Book, which deals with the sixteenth century, and includes a fine treatment of the Pléiade and of Montaigne, is admirably written. The seventeenth and eighteenth centuries are more formal in their character, more marked by literary order and style; but they are extremely interesting to the student, and comprise men of such exquisite genius in their several domains as Molière, Voltaire, and Diderot, and such precursors of the romanticists and naturalists as Rousseau. The analysis of Rousseau is one of the finest things in a volume which is finely conceived throughout. Professor Dowden has given us a brilliant picture of a literature only second in point of brilliance —not second in point of fineness—to the literature of England.

Women at German Universities.

Die Akademische Frau. Edited by Arthur Kirchoff. (Berlin: Steinitz.)

This interesting symposium deals liberally, and on the whole temperately, with the question, as it presents itself to the German professorial mind, of the fitness of women for a full academic course. Among its hundred and thirty or more contributors are not a few whose names are known all over Europe. Six articles set forth the views of theologians; as many are furnished by jurists. The longest (and perhaps the least interesting) series is devoted to the medical woman; while specialists in philosophy, history, political economy, art, mathematics, biology, and other subjects deliver themselves more or less ably on both sides of the controversy. Writers of fiction, including Paul Heyse and Ebers, have their section, and the last chapter reviews the historical aspect of the movement, as it has shaped itself in the United States and in nearly all European countries. Such is the task which the editor, Herr Arthur Kirchoff, has set himself to accomplish in the interest of his countrywomen.

The opinions of the theologians, noteworthy as based on the least hackneyed consideration of the matter, are cautiously given. "I reserve my judgment," says one. "No male jury is needed; experience alone can decide," adds another. A writer in the political economy section pays a tribute to the work of Mrs. Sidney Webb, and points his moral thus: "Why should that which is possible to Englishwomen and Americans be impossible to German women?" For simple human interest one contribution is specially noteworthy, from the pen of a mathematical professor at Kiel. In reviewing the intellectual powers of women, displayed from the time of Hypatia to that of Mrs. Somerville and Caroline Herschel, and down to the present decade, he lingers on the career of Sophie von Kovalevsky, a professor at the University of Stockholm, to whom life gave all it has to offer, except that which this most brilliant of women mathematicians could least do without—*das Leben des Herzens.* The digression is but one of the charms of a book which deserves to be read for its side-lights on the problem of the higher education of women, even if the main arguments are somewhat trite.

SHORT NOTICES.

FRENCH.

(1) *Quand j'étais petit: Histoire d'un enfant racontée par un homme. Par Lucien Biart.* Part II. Edited by James Boïollo, B.A. (Cambridge University Press.) (2) *First Facts and Sentences in French.* By Victor Bétis and Howard Swan. (Philip & Son.) (3) *French Composition and Idioms.* By Hector Rey, B. ès L., B. ès So. (Blackio.) (4) *Drill on the Essentials of French Accidence and Elementary Syntax.* By Victor Spiers, M.A. (Simpkin, Marshall, & Co.) (5) *Un peu de tout.* By F. Julien. (Sampson Low.) (6) *French Verbs Simplified.* By F. Julien. (Sampson Low.) (7) *Elementary Exercises on French Accidence and Syntax.* By C. H. Monod. (Aug. Siegle.) (8) *Histoire de la Première Croisade.* By Michaud. Edited with Notes by A. V. Houghton, B.A. (Macmillan.)

(1) The criticisms passed on the first part of "Quand j'étais petit," in our February number, apply equally to this second part. The notes are fair, a little dogmatic at times, hasty and incomplete in places, often prolix, but on the whole, like the vocabulary, helpful.

(2) There is no doubt that the beginner in whose hands "First Facts and Sentences" may be placed will benefit largely by going through this so-called elementary course, and so enlarge his knowledge of words and phrases as to enable him to speak more fluently and intelligently. But there is a large amount of patient hard work for both master and pupil. At least one lesson every day would be necessary to do justice to the book and its method, and the ordinary school routine prevents so much time being allowed to foreign languages. The general arrangement of the work is clear; the subjects are varied and practical, and, with plenty of time at the pupil's disposal, the book cannot fail to bear good fruit.

(3) "French Composition and Idioms" strikes us as a very useful book at all points, compiled by a painstaking and experienced teacher. In thirty-four lessons, which will have to extend a trifle over one hour each, a pupil who has a good knowledge of accidence and a primary knowledge of syntax is taken through many intricacies of French grammar and idiom. The book is well graduated, and abounds in intelligent explanations bearing on comparative grammar, notes on the text, tables of Gallicisms, Anglicisms, and idioms, and questions for examination. We think the author has attained his aim of providing a thoroughly practical and comprehensive introduction to French composition.

(4) Professor Spiers' "Drill on French Accidence and Elementary Syntax" is in every way what it purports to be, a serviceable companion to grammar and composition-book. Its first principle is, *one thing at a time;* its second, *repetition,* which is well termed by the author "the mother of studies." All the parts of speech, with their syntactical peculiarities, are treated thoroughly, and copiously illustrated. From beginning to end, rules already learnt are frequently referred to. The verbs are specially well treated. Professor Spiers is too modest if he looks upon his "Drill" as a mere companion-book to grammar. It is indeed a grammar in itself, in a new form, less tedious and more thorough than the majority of grammars. This book, and the "Rapid Exercises," by the same author, with the help of a good Reader, would suffice to prepare a pupil for most examinations. It has this further advantage, that it is above all a class-book.

(5) The title of "Un peu de tout" speaks for itself. It is an *olla podrida* of words, phrases, idiomatic sentences, proverbs, &c., for translation into French or English, without any definite arrangement, and extending over 275 pages. Half of the book is devoted to a key of the other half, in which the student finds the translation of the earlier half, interspersed with a few grammatical elucidations. It is intended for private use, rather than for class work, though of course it may be used in class. It would be more useful if there were more method in the arrangement of the sentences.

(6) "French Verbs Simplified" is certainly an attractive title. Each new discoverer of what he considers a royal road to the mastery of a difficulty thinks, naturally enough, that *his* way is *the* way. M. Julien is no exception to the rule. In all previous attempts to simplify French verbs he fails to see any substantial aid for the student, and the only advice he can give is, *Prenez mon ours!* As to ourselves, we fail to see the special advantage of his new method, which virtually consists of two tables, and about forty-two pages of close print, without any etymological explanations of the irregularities of individual verbs. To be able to conjugate a verb mechanically is certainly not to understand why the verb should be so conjugated, and we hold that a good grasp of etymological reasons alone can make the subject tangible and easy.

(7) M. Monod provides a good set of exercises on French accidence and syntax. They are accompanied by connected pieces in French and English, and may be used with any grammar.

(8) Mr. Houghton's is an excellent Reader. Prefaced by a Life of Michaud and an *exposé* of his literary work, together with a good historical introduction, furnished with valuable historical and grammatical notes, the book presents a *tout ensemble* calculated to render it attractive and useful. The appendices by the general editors (Messrs. Otto Siepmann and Eugéne Pelissier) are noteworthy. The first consists of words and phrases for *viva voce* drill, grouped under as many series as there are pages in the text. A second contains phrases and idioms, grouped in a similar way; a third, sentences on syntax and idioms based on the text, for *viva voce* practice; a fourth, connected passages for translation into French, also based on the text; whilst the last is a chapter on word formation, dealing mainly with prefixes. These appendices greatly increase the usefulness of the book.

MATHEMATICS.

(1) *The Theory of Groups of Finite Order.* By Professor W. Burnside, M.A., F.R.S. (Cambridge University Press.) (2) *Introductory Course in Differential Equations.* By D. A. Murray, Ph.D. (Longmans.) (3) *Elementary Geometrical Statics.* By W. J. Dobbs, M.A. (Macmillan.) (4) *A Junior Algebra.* By F. Oscar Lane, B.Sc. (A. M. Holden.) (5) *The Shilling School Arithmetic.* By Dr. R. Wormell, M.A. (Murby.) (6) *The New Explicit Arithmetic,* and *The New Explicit Algebra.* By J. J. O'Dea, M.A. (Longmans.)

(1) Professor Burnside's treatise is, perhaps, the most important of a very varied and valuable series of mathematical works published by the Pitt Press during the present year. We cannot pay a higher compliment to the work than to say that both the matter and style give the impression that the name of the author will become as familiar to mathematical readers as the names of Salmon, Tait, and Forsyth. A set of operations $A, B, C \ldots$ is said to form a *group*, provided only that the three following conditions are satisfied:—(1) The result of performing successively in a given order any number of operations of the set is another definite operation of the set. Thus, the operation A followed by B is equivalent to an operation H belonging to the set, *i.e.*, $AB = H$; but BA may be different from H. (2) The result of any number of operations $A, B, C \ldots$ in succession is independent of the way they are associated, provided the same order is always kept. Thus, if $AB = H$, $BC = K$, $CD = L$, then $ABCD = HCD = AKD = ABL = HL$. (3) To every operation A of the set there is an inverse operation A_{-1}, which also belongs to the set, such that A followed by A_{-1} produces no change. As a simple example we may take the six operations which convert x into $\frac{1}{1-x}$, $\frac{x-1}{x}$, $\frac{1}{x}$, $1-x$, $\frac{x}{x-1}$, x, respectively. These operations are easily seen to satisfy conditions (1), (2), (3). The operation which produces no change, *e.g.*, that which converts x into x in the above, is called the *identical* operation, and is represented by 1. Professor Burnside tells us that his treatise is intended to give the main outlines of the theory apart from any applications. Possibly the reason for this may be that there would not be sufficient space in a single volume; but we may at least hope that the book will be followed by another in which some applications of the subject will be given.

(2) Dr. Murray's elementary treatise is an excellent one as far as it goes. It includes the complete solution of partial differential equations of the first order in one unknown, and says a little about linear partial differential equations of higher order. The subject is explained in a simple and intelligible way; and a very large number of references and interesting historical notes are given, which cannot fail to excite the reader's ambition to learn more of the subject. Another feature is that in some cases a theorem is only stated, while the proof is postponed to a note at the end of the book. This plan, if not employed too often, seems a good one; and in the case of difficult theorems it would be well if it were more commonly adopted.

(3) Mr. Dobbs' book is intended as an introduction to "Graphic Statics," and is based on six years' experience of teaching the subject to Woolwich pupils. It will undoubtedly be welcome to many students. Co-planar systems of forces, friction, and systems of rods and stiff frameworks form the chief divisions of the subject dealt with. The book is rather bulky for the amount of matter it contains; but this seems to be owing to the thickness of the paper and to the large space occupied by the diagrams.

(4) Mr. Lane's "Junior Algebra" contains chapters on indices, surds, and arithmetical and geometrical progression, but not on ratio, variation, &c. There appears to be no special novelty or improvement on other text-books such as would of itself afford a good reason for publication. The order, which we do not think the best, is, with one slight exception, the same as in another well-known elementary algebra. It may, however, be said that the explanations of difficulties are extremely simple, and, for the most part, free from obscurity or error. The type is very clear and pleasing; and the examples are very numerous and carefully chosen.

(5) Dr. Wormell's book is a very useful "Arithmetic," and is specially adapted for boys on the commercial side of a school. No practical part of the subject is omitted. The examples include all the varieties of questions, and are not too difficult. The bookwork is condensed, but sufficient for its purpose. We formed a good opinion of this book when it first appeared, and are glad to see that opinion confirmed by the demand which it has created.

(6) Mr. O'Dea's "Explicit Arithmetic" is in two parts, the second part commencing with compound interest, but both may be purchased in one volume. The whole forms a fairly complete work in arithmetic, including the progressions, logarithms, continued fractions, and scales of notation. We do not, however, consider that the merits of the work are equal to what is claimed in the preface. We are led to expect some advanced propositions on circulating decimals, but we do not find any but the most elementary theorems. A graver fault is that almost all the examples are worked by means of rules, so that the student learns only mechanical processes, instead of being taught to express his reasoning intelligently. As an example of the looseness of style which the author occasionally allows himself, we quote a remark (p. 441) on geometrical progression:—"The student should bear in mind that when the common ratio is negative and the number of terms even, the sum of the series will be negative; but when the number of terms is odd the sum of the series will be positive." Nothing is said about the first term being positive, or the common ratio numerically greater than unity, both conditions being necessary for the correctness of the statement. So again, immediately following, in considering the sum of a geometrical progression to infinity, nothing is said about the common ratio being numerically less than unity. Mr. O'Dea's "Algebra," which is in a separate volume, does not go beyond simple equations; but factors and fractions are treated very fully, and difficult examples are given. A pupil should be taught to solve quadratics long before he could master the contents of this volume.

MISCELLANEOUS.

Rome the Middle of the World. By Alice Gardner. (Edward Arnold.)

We have more than once maintained that history might be taught to better purpose, in a fresher and more interesting manner, by the simple process of taking longer epochs and entering into fewer details. Every one should have a general notion of the history of his own country, from its origins to the present day, and those who read any further cannot do better than take a few long vistas of international history, which teach as much, and may be made quite as interesting, as summaries of shorter periods crammed with more or less trivial facts. Miss Gardner's sketch of the successive epochs of Rome extends over sixteen or eighteen centuries, and is just such a book as we should be inclined to recommend. When we have a few volumes of this kind ready to hand, we can begin to urge their use upon the examining bodies.

Historic Ornament: Decorative Art and Architectural Ornament. By James Ward. (Chapman & Hall.)

Mr. Ward begins his treatise with a survey of prehistoric art, so far as records of such art can be considered as existing—for is not art itself historic, and is it not almost a contradiction of terms to talk of prehistoric documents? He then passes on to an account of the most ancient arts and architectures in connexion with which we possess collateral human records; and from them he advances in turn to the characteristics of Eastern, Early Christian, Byzantine, Saracenic, Romanesque, Gothic, and Renaissance architecture and ornament. With 436 illustrations on 409 pages—illustrations which are all on a good scale and frequently occupying the whole page—it is clear that the author has not space for much more than the enumeration and brief description of his pictures. Into the principles and significance of the various schools of decorative art Mr. Ward does not attempt to penetrate, and in this he is doubtless wise. His aim has been to indicate what he regards as the landmarks of the several domains. His book is designed for students and schools of art, and it is capable of being used with good effect by competent teachers. In a future volume Mr. Ward hopes to apply a similar pictorial method to the industrial arts and crafts.

The Prose Works of Jonathan Swift, D.D. Edited by Temple Scott. Vol. II. *Swift's Journal to Stella, A.D. 1710–1713.* Edited by Frederick Ryland, M.A. (Bell & Sons.)

We welcome the second volume of Mr. Temple Scott's excellent edition of the prose works of Swift, all the more heartily because the "Journal to Stella," which it presents in full, brings us close into touch with Swift the man. Much in these letters is delightful—at any rate, to one who will enter into the minds of the original writer and reader, and who will imagine, and see eye to eye with them; the only way in which any literature is worth reading. The editor gives us a facsimile of one of the letters, with a reproduction of the seal in wax. The introduction says as much as was worth saying about previous editions of the "Journal," correcting sundry inaccuracies, and fairly interpreting all, or nearly all, the "little language" and cryptics of the original. We note few inaccuracies in the present edition; but why did not Mr. Ryland alter his double dates in the headings of the pages to single dates as soon as Lady-Day is reached, instead of waiting for the end of March? See page 143, for instance—"March 25. Morning. I wish you a merry new year"; the date of that page (or the next) should be 1711, not 1710–11.

A History of England. By H. O. Arnold Forster. (Cassell & Co.)

Mr. Arnold-Forster has based this simple, easily-read, profusely illustrated history for children upon a series of Readers which have already been noticed in our pages. We have no doubt that in its present form his clear and straightforward narrative will find more than the hundred thousand readers who, as we learn from the preface, appreciated the separate parts. The book is excellently printed, and many of the pictures are exceptionally good.

"Heroes of the Nations." Edited by Evelyn Abbott, M.A.—*Ulysses S. Grant, and the Period of National Preservation and Reconstruction.* By William Conant Church. (Putnam's Sons.)

The preservation of the United States as a single nation, or union of States, from the danger of separation, under circumstances which would have produced two weak unions, side by side, with the absolute certainty of a war in the near future, is very well described by Lieut.-Col.

Church; and, much as Americans have done to commemorate the famous war of 1861–5, when three millions of men were enrolled as soldiers on the American continent, the tale was worth telling again in this concise and familiar form. The statement with which the author sets out on his narrative shows that he can grasp the main significance of that heroic period in the history of his country. The war of human emancipation was, on the part of the North, a war of moral resolution and effort, not of aggression or greed, not even, as the Southerners thought it was on their own account, a war forced upon them for the protection of their rightful property. Again, it proved that the country of Washington and Franklin had begun to put away childish things, and was rising to man's estate. It gave the Americans "such a schooling in endurance and self-control as a lifetime of routine could not have secured for them"; and it passed the whole nation through an era of self-sacrifice and self-respect which redeemed it from a great deal that was, or threatened to become, unworthy. The narrative is simply and straightforwardly told.

"The Children's Study."—(1) *France.* By Mary C. Rowsell. (2) *Rome.* By Mary Ford. (Fisher Unwin.)

(1) Miss Rowsell has performed her task creditably, and this summary of the history of France for children, in 355 pages, is one of the best volumes of the series to which it belongs. It is scarcely possible to write a thoroughly satisfactory account of French history within such a compass, but Miss Rowsell has done it fairly well. She is not accurate in saying of the year 840, "For ages Gaul had been part of the Roman Empire. Henceforward it was called France." The statement is ludicrous as it stands, especially if it is taken to imply that Gaul was part of the Roman Empire up to 840. On the following page she should have mentioned the Oaths of Argentaria. But, on the whole, the book will serve its purpose.

(2) Miss Ford's "Rome" has its good qualities. It is simple and unpretentious, quite suited to a young reader, and generally right in its facts and in the ideas which it conveys. But it is uneven in merit. We cannot tell what was in the author's mind when she wrote her last sentence. We never knew that the Huns, "sweeping over the whole country, blotted out for ever the great empire of Rome." This is a rash deduction from a half-truth.

"University Tutorial Series."—*England under the Later Hanoverians.* By A. J. Evans, M.A., and C. S. Fearenside, M.A. (Clive.)

This book—the fourth volume of the "Intermediate Text-book of European History"—is a veritable *multum in parvo*, containing a vast amount of information, which is compressed almost up to the limits of condensation. It will assuredly be very useful to the intelligent student of eighteen or twenty who is filling himself up with facts in order to empty himself again at an examination. After all, this is the professed object of the book, and it is fairly attained. We are not prepared to say that anyone could have done the same thing better than Messrs. Evans and Fearenside have done it.

The Building of the Intellect: a Contribution towards Scientific Method in Education. By D. M. Gane. (Elliot Stock.)

This is not a book in any proper sense of the word. The author has cut some hundreds of tit-bits out of as many authors, ancient and modern, and has woven them into nine chapters on what he calls Education. The same thing was better done by David Kay in "Education and Educators" (1883), and Kay's book served no useful purpose, except as a fairly complete collection of quotations. This collection by Mr. Gane is far from complete, and has no index. Its dedication to Sir John Lubbock suggests that the author has had "The Pleasures of Life" in his mind as his literary model. Mr. Gane considers that "education is in itself attractive to every thinking mind," and doubtless hopes that thinking people will read his aimless assortment of scraps.

"Selections from the Poets." Edited by Andrew Lang.—*Wordsworth.* Illustrated by Alfred Parsons, A.R.A. (Longmans.)

Wordsworth again! But this time he comes in a very attractive form, excellently printed and bound, with seventeen delightful illustrations, and a very readable and well-balanced introduction by Mr. Lang. The new series heralded by this charming volume claims a hearty welcome, and will unquestionably find its way to a large and steady appreciation. Mr. Lang's selection of pieces is very liberal, including all, or more than all, of those which have been recognized by common assent as Wordsworth's best.

Milton's Comus. Edited by Thomas Page. (Moffatt & Paige.)

This is a carefully-edited volume, but overloaded with information. There is a section on the language of the Masque, on the model of Dr. Abbott's *Shakespeare Grammar*, and there are the usual introductory sections, biographical, bibliographical, &c. In his preface Mr. Page tells us that "derivations are only given in cases of particular interest or difficulty." After this it is a little surprising to find that, in addition to a few cases in the "Miscellaneous Notes," very nearly one-sixth of the book (23 pages out of 150) consists of an etymological dictionary.

Victoria the Great: a Reader for Schools. (Nelson & Sons.)

Messrs. Nelson's series of Readers, under the title of "Royal," is so deservedly well known that it is unnecessary for us to say more than that this volume is worthy of its companions. It is not a systematic history of the Queen's reign, but a series of selected readings on points of interest connected with the Queen herself or the circumstances of her reign. Written in a simple unexaggerated manner, the book is likely to aid in producing a feeling of loyalty and patriotism among the young. There are fairly good pictures.

Chambers's Alternative History Readers. Standard IV., V. (Chambers.)

The stories are well selected, but we cannot help thinking that in some cases more might have been made of them by a more dramatic style. There are some nice pictures, and the volumes are attractively produced.

Gill's Outlines and Dates of English History. (Gill & Sons.)

"It will be found a useful exercise for the student," says the editor in his preface, "after reading over a prescribed portion of his text-book, to take the brief statements made in these 'Outlines' as headings, and thereon frame detailed descriptions in the form of essays." With this we cordially agree. It would also be a useful exercise for the student to correct the errors in this book. He might ask himself how he would justify the spelling *Witanagemote* and *Earldormen*. If he is a student of literature, it might be profitable to inquire who was the *Hobbe* who wrote "Commonwealth"; when and under what circumstances Henry Fielding wrote "Clarissa"; and why the name of the author of "Rule Britannia" is spelt with a *p*. It would be interesting, but, perhaps, dangerous, to ascertain what are "ideas of an ecclesiastical form of anarchy."

We have also received the following publications:—

Department of Science and Art Directory, with Regulations for establishing and conducting Science and Art Schools and Classes. (Her Majesty's Stationery Office.)

University College of North Wales Calendar for 1897–8. (Manchester: Cornish.)

The Wealth and Progress of New South Wales, 1895–6. Vol. I. (Sydney: Gullick.)

"The Cambridge Bible for Schools and Colleges," edited by Dr. A. F. Kirkpatrick.—*I. Maccabees*, edited by W. Fairweather, M.A., and J. Sutherland Black, LL.D.—an excellent school and college edition.

Old Testament History for Schools, by the Rev. T. H. Stokoe, D.D., Part III. (Clarendon Press)—a capital reading book, well arranged with notes and text on opposite pages.

A Short Synopsis of English History, by J. C. Wright (Relfe)—a summary of dates, clearly printed.

Dr. Dick's Historical and Commercial Geography and Atlas (Murby)—enlarged edition; a compact and serviceable volume.

The Machinery of the Universe, by A. E. Dolbear (S.P.C.K.)—an American reading book on the mechanism of physical phenomena; ingenious, somewhat arbitrary, not always grammatical (pages 82, 107, and *passim*).

Songs of Happy Life, for Schools, Homes, and Bands of Mercy, compiled by Sarah J. Eddy (Bell & Sons)—light and easy.

Macmillan's Recitation Books: New Series (Macmillan)—in penny and twopenny parts, arranged for the Standards; an excellent idea: well-selected poems, with simple aids and explanations.

Macmillan's Promotion Test-Cards in Arithmetic (Macmillan)—a packet of sixty cards for Standard VI., three sets of six in each card, with separate answers.

Humanitarian Essays (Reeves)—a third volume of a series entitled "Cruelties of Civilisation," edited by Mr. H. S. Salt for the Humanitarian League, with an appeal to teachers on behalf of lessons on kindness to animals.

Army Preliminary French (Simpkin & Co.)—a collection of easy sentences and idioms.

From Messrs. Chapman & Hall we have received an excellent series of twelve unmounted cartridge paper sheets, clearly printed in black, to illustrate the general *Principles of Mining*, with maps, strata, geological formations, the English coal-measures, the tools, instruments, and contrivances employed in mining, from drawings by Messrs. Jukes Browne, Le Neve Foster, H. W. Hughes, and others, arranged by Messrs. Howard and Small, and carefully lithographed by Messrs. Vincent Brooks & Co. As an aid to technical teaching, especially in the mining counties, we can imagine nothing better.

Messrs. W. & A. K. Johnston send us *Plants of Commerce, Historical and Famous Scenes, Historical Celebrities*, all coloured and mounted on rollers for hanging; two large unmounted sheets of Windsor (with the Royal Family) and Edinburgh; and two smaller *Botany Sheets*, for Flowers and Fruits respectively, mounted and well coloured. From the same firm we have a large sheet of *Illustrations of Geometry*, with figures to the earlier propositions, in broad coloured lines on a black ground. The idea is due to Mr. T. J. Menzies, M.A. The data of the propositions are in white lines, the first step of the proof in red lines, the second in blue, and so on. We should certainly like to have this sheet suspended in front of any class which we might happen to be "insensing" in the first principles of geometry.

From Messrs. Nelson & Sons we have a mounted set of large pictures and diagrams on *Plant Life* (third series) by Dr. M. C. Cooke, prepared in accordance with Circular 369 of the Education Department. For object-lessons in which pictures have to take the place of objects, this portfolio and accompanying handbook are simple, accurate, and cheap.

Messrs. Philip & Son supply a series of *Writing Charts*, for semi-upright hand, mounted on a "ledge," good and cheap.

Messrs. Blackie & Son provide a new issue of "Vere Foster's Original Series," in upright hand, on eyeletted oblong sheets, convenient for fixing in front of a form of boys.

From Messrs. Bacon we have a bold mounted sheet illustrating an *Orange Tree* with its fruit.

LITERARY GOSSIP.

Mr. F. T. Palgrave, *emeritus* Professor of Poetry at Oxford, who died rather suddenly on October 24, barely survived to read the earlier notices of his excellent second series of the "Golden Treasury of Songs and Lyrics." It is very unlikely that any living critic would be able to make a selection of nineteenth-century lyrics which would receive more general assent than Mr. Palgrave's last volume.

In the current number of the *English Historical Review*, Sir Edward Fry once more raises the much-disputed question as to the position of the Roman and Carthaginian armies at the Battle of Cannæ. Sir Edward has studied the problem on the spot, and comes to the conclusion that Mr. Strachan Davidson is right in holding that the battle was fought on the southern bank of the river Aufidus. Mr. Morris, whose "Hannibal" we recently noticed, agrees with the majority of commentators in supporting the opposite contention.

In the same *Review* Mr. J. W. Headlam has an interesting notice of the work of Treitschke. "When Ernst Curtius, Heinrich von Sybel, and Heinrich von Treitschke died," says Mr. Headlam, "within a few months of one another, Germany and Berlin lost three of the most distinguished writers who had devoted themselves to history."

In the *Asiatic Quarterly Review*, Dr. Leitner has a curious and valuable note on "Certain Oriental Analogues in Gaelic," which we commend to the notice of our Celtic scholars.

Professor Edwards, of the University of Wales, has produced a volume of specimens of Welsh prose for use in schools, thus anticipating the Cymric grammars which have been promised by Professor Anwyl and others.

On October 12 the Vice-Chancellor of Oxford gave a banquet in honour of Dr. Murray, Mr. Bradley, and the staff of the "New English Dictionary," the guests including the Bishop of Oxford, Sir Robert Giffen, Sir W. Markby, Sir Frederick Pollock, Sir Henry Roscoe, the President of Corpus, Sir William Crookes, the Provost of Oriel, Dr. Furnivall, Dr. Garnett, Dr. Whitley Stokes, and others. Dr. Murray said, with regard to the date at which the work would be finished, that his estimate was that it would be completed about 1910; but, with the additional strength that the Delegates might perhaps give, he saw no reason why it should not be ended by the year 1908. As one of the guests observed, there can be no doubt that the dictionary-makers will retain their "zeal" to the last instalment of the work.

A short account of the University Herbarium, the first published since 1863, when the late Professor Daubeney gave us his "Popular Guide to the Botanic Garden of Oxford," has been issued by the Clarendon Press. It was prepared by Mr. G. C. Druce, Hon. M.A., the Keeper of the Fielding Herbarium. In a preface Professor S. H. Vines notices that the Herbarium has received large and important additions since the last handbook was printed.

The first number of *Hollandia*, a Dutch weekly for Hollanders abroad, will be published on Saturday, November 6. It will be conducted by Mr. J. T. Grein, and Miss Johanna Volz will be the assistant editor. Leading Dutch authors have been invited to contribute, and a competition has been opened among Dutch artists for a frontispiece, Mr. L. Alma Tadema, R.A., having consented to act as judge.

Four editions of Professor Saintsbury's popular "Short History of French Literature" having been exhausted, a fifth is about to be issued from the Clarendon Press, thoroughly revised throughout. The section on the nineteenth century has been practically re-written, and very much enlarged.

CORRESPONDENCE.

GEOGRAPHICAL NOMENCLATURE.

To the Editor of the Educational Times.

Sir,—I desire to place before you a suggestion for a reform in the teaching of geography in so far as geographical nomenclature is concerned. At present each country teaches its children an almost arbitrary nomenclature of places in foreign countries, so that, instead of one place having one name, it has in many cases several names; and a name is often so much changed that the inhabitants of the country in which the place is situated fail to recognise the name of the place under its foreign disguise. Thus—"Baiern" becomes "Bavaria" and "La Bavière"; "Aix-la-Chapelle" is disguised as "Aachen" and "Aquisgranum"; "Le Hainaut" appears as "Der Hennegau" and "L'Ainu"; "Bois-le-duc" becomes "Herzogenbusch"; "Ratisbonne" is translated into "Regensburg"; "Liège" is transformed into "Lüttich"; "Tournai" into "Doornik"; "Wien" into "Vienna" and "Vienne," &c.

In addition to one place having several names, we have another and perhaps greater and more inconvenient difficulty in the case where the place has only one name and the spelling is thus constant, but the pronunciation of the name is different in different countries. Children when learning geography and reading are not taught to pronounce the names of foreign places as they are pronounced in the country where these places are situated, but to pronounce the names in accordance with the pronunciation of their own mother tongue. The result is that the names of many places as pronounced by the people of one country are altogether unrecognisable by the people of another country; the names have become so disguised by mispronunciation. What Frenchman (a booking-clerk at a railway station, for example) would recognise the French town Rheims in the English pronunciation of the name? And how many Englishmen would identify Birmingham, Wigan, Southport, Bury, Leeds, as pronounced by a Frenchman? An English merchant once told me he was going to Ruin—the very last thing he meant to do; what he meant was, he was going to Rouen.

Now these difficulties and inconveniences in commercial and social intercourse between nations could be easily overcome by the adoption of a reform in the teaching of geography; and the reform I have long wished to suggest would accomplish not only this desirable change in a simple and easy manner, but it would in a very important way also facilitate the learning of foreign languages. The plan I suggest is simply this:—Let the children of each nation in Europe be taught to pronounce geographical names as they are pronounced in the language of the country in which these places are situated. It would only be carrying a step further what is already being done in relation to English and Welsh names. The Welsh learn to pronounce English names as they are pronounced in England, and English people are learning to pronounce the names of Welsh places as they are pronounced in Wales. Let this, the true system of geographical nomenclature, be made general. A very short training would put teachers in possession of English, French, German, Italian, Spanish pronunciation, and in the majority of cases, the teaching being early begun, the children would soon get over the main difficulties in the pronunciation of foreign names, and to each generation it would become more and more easy.

May I ask your consideration of the suggested reform, and, in the event of its commending itself to you, will you give me your valuable help towards its accomplishment?—Faithfully yours,

32 Bold Street, Southport. Cuthbert C. Grundy.

[We have been obliged to abbreviate Mr. Grundy's letter.—Editor.]

A NEW GEOMETRY.

To the Editor of the Educational Times.

Sir,—Your short notice in the current number of the *Educational Times* of a recent edition of "Euclid I.–IV." led me to take an opportunity of inspecting a copy of the same. One finds at the very beginning some startling assertions. On the authority of the author we are permitted to consider a "line" (which *has* length) as being formed by a number of "points" (which have *no* magnitude) placed close beside one another; and again to consider a "surface" (which *has* breadth) as being formed by a number of "lines" (which are *without* breadth) placed close together!

The perusal of these statements must have hypnotised me. A voice seemed to mutter, "Then *lengths* may be formed by placing close beside one another two or more *no-lengths*, and *breadths* may be formed by placing close together two or more *no-breadths*"; and a brief response terminating with a sound like that of the Greek word *adunaton* seemed to come as if echoed from afar.

This geometry is indeed too transcendental for me. I cannot attain unto it, and remain still quite satisfied with the genuine ungarbled work of Euclid as presented with instructive elucidation and comments by Todhunter, Casey, Seeley, and others. Following the practice of the "Saints" of Cromwell's time, I describe myself by a motto, somewhat pertinent,

October 2, 1897. Ex Nihilo Nihil.

TESTIMONIAL TO MR. W. J. C. MILLER.

Mr. W. J. C. Miller desires, through our columns, to address the following Note to the subscribers of the testimonial recently presented to him:—

My Lords, Ladies, and Gentlemen,—Though I was much astonished at hearing that a testimonial had been thought of, yet the form it has taken has gratified me very much, and I return you my most grateful thanks. The work of editing the mathematical portion of the *Educational Times* was to me a real labour of love, and carried on through all those years amid many difficulties; and that it has been successful in aiding the science always dear to me has been its own reward. Still, now that I am quite unable to carry on the work, it is very pleasant to find that it has met with so ample a recognition.

The letters that I have been permitted to read, through the kindness of the Treasurer and Secretary, have given me great satisfaction and delight. I am deeply moved by the kind and generous words in which you express your appreciation of my labours; these of themselves are a great reward. The gift of money with which you have favoured me is not more acceptable than the very handsome watch, which, with its inscription, I shall be proud to bear about with me as long as I live.

I am, my lords, ladies, and gentlemen, yours very sincerely,

W. J. C. Miller.

The Paragon, Richmond-on-Thames,
October 13, 1897.

MATHEMATICS.

12675. (Professor Dougnac.)—Si $a^3+b^3+c^3=0$, démontrer que

$$a+b+c=3abc/\{a(b-a)+b(c-b)+c(a-c)\}.$$

Solution by Rev. S. J. Rowton, M.A., Mus.D.; R. Chartres; *and others.*

$$a^3+b^3+c^3-3abc=(a+b+c)\{a(a-b)+b(b-c)+c(c-a)\}.$$

Therefore, if

$$a^3+b^3+c^3=0,\quad a+b+c=3abc/\{a(b-a)+b(c-b)+c(a-b)\}.$$

13576. (Professor M. W. Crofton, F.R.S.)—If $4n-1$ is a prime number, then $1.2.3\ldots(2n-1)\pm1$ is divisible by $4n-1$.

Solution by Lt.-Col. Allan Cunningham, R.E.

Show that $\frac{p-1}{2}!\pm1$ is divisible by p, when $p=4n-1=$ *prime.*

Wilson's theorem gives $(p-1)!\equiv-1$, (mod p). Now $(p-1)!$ may be written as the product of the two *half* factorials of $\frac{1}{2}(p-1)$ terms each

$$[1.2.3\ldots\tfrac{1}{2}(p-1)][(p-1)(p-2)(p-3)\ldots\{p-\tfrac{1}{2}(p-1)\}],$$

and the terms of the latter product are congruent to

$$-1,\ -2,\ -3,\ldots-\tfrac{1}{2}(p-1),\ [\text{mod } p];$$

therefore
$$(p-1)!\equiv\frac{p-1}{2}!\left[(-1)^{\frac{1}{2}(p-1)}\frac{p-1}{2}!\right],\ (\text{mod } p)$$
$$\equiv(-1)^{\frac{1}{2}(p-1)}\left(\frac{p-1}{2}!\right)^2$$
$$\equiv-\left(\frac{p-1}{2}!\right)^2,\ (\text{mod } p),\ \text{since } p=(4n-1);$$

therefore
$$\left(\frac{p-1}{2}!\right)^2\equiv+1,\ \text{and}\ \frac{p-1}{2}!\equiv\pm1\ (\text{mod } p),$$

which shows that $\frac{p-1}{2}!\mp1$ is divisible by p.

13623. (R. Chartres.)—Two random points P, Q are taken within the triangle ABC; find the mean value of the triangle APQ.

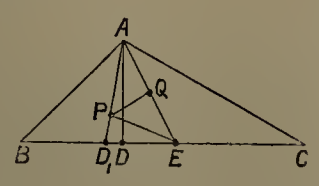
Solution by the Proposer.

Let D, E be two random points in BC, and D_1 indefinitely near to D; then the mean value of ADE $=\frac{1}{3}\Delta$. Hence, if P moves in the element AD_1D, the mean value of

$$APE=\tfrac{2}{3}\text{ of }ADE=\tfrac{2}{9}\Delta,$$

since the mean value of AP $=\frac{2}{3}$AD. And, if Q moves similarly, the mean value of

$$APQ=\tfrac{2}{3}\text{ of }APE=\tfrac{4}{27}\Delta.$$



13628. (J. C. Wasson.)—When a variable point moves round the circumcircle of any triangle, the motion of the Simson's line with respect to that point is identical with that of a chord of a circle one extremity of which passes over twice the arc described by the other, the arcs being measured in opposite directions.

Solution by the Proposer.

Proof.—We shall prove the following lemma:—

DXPT (see Fig. 1) is a circle, LXP and LDT two chords so situated that LX = XT. Then arc TP = 2 arc XD. Conversely, if arc TP = 2 arc XD, and TD, PX, produced if necessary, meet in L, then LX = XT.

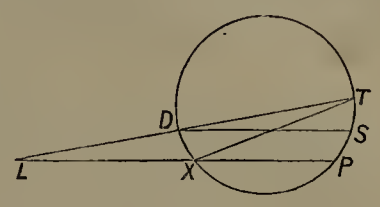


Fig. 1.

From D draw DS parallel to XP meeting the circle again in S.

$$\angle DTX=DLX=TDS;$$

because DS is parallel to XP.

Therefore arc DX = arc TS. But arc SP = arc DX;

therefore arc TP = 2 arc XD.

For the converse, making same construction, we have

arc TS = arc XD; therefore $\angle TDS=DTX$;

therefore $\angle TLX=DTX$; therefore LX = XT.

Now consider Fig. 2. ABC is a triangle inscribed in a circle; AP, BQ, CR the three perpendiculars from the vertices on the opposite sides, intersecting each other at the orthocentre O. X, Y, and Z are the mid-points of the sides, and let the nine-point circle be described round X, Y, Z, P, Q, and R. [The rest in Volume.]

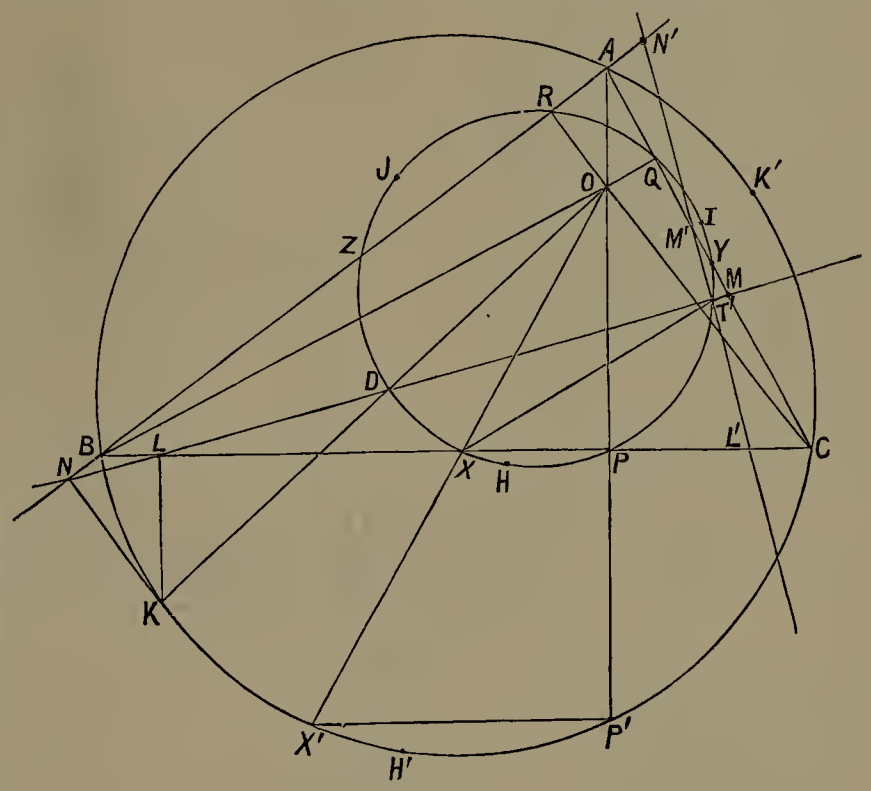


Fig. 2.

13618. (Robert W. D. Christie.)—Where P is any odd prime whatsoever and Q an integral function of that prime, prove

$$X^2-5Y^2=PQ+1,$$

and find general integral values for X and Y.

Solution by H. W. Curjel, M.A.

It is easily seen that

$$\{\tfrac{1}{2}(5p\pm3)\}^2-5\{\tfrac{1}{2}(p\pm1)\}^2=p(5p\pm5)+1.$$

[The Proposer adds the following:—Another simple value is

$$\{\tfrac{3}{2}(p\pm1)\}^2-5\{\tfrac{1}{2}(p\pm1)\}^2=p(p+2)+1,$$

and a general value is

$$X=\tfrac{1}{2}(ap\pm3)^2,\quad Y=(bp\pm1)^2,\quad q=p.(a^2-5b^2)/4\pm\{2(3a-5b)\}/4,$$

where a and b are arbitrary so long as they are of the same affection. But my special object in the above question was to draw attention to a remarkable property of the "continuant" series:—1, 1, 2, 3, 5, &c.

Let a, b be any two *consecutive* terms of this series, then

$$(a+2b)^2-5b^2=p\left\{1+\frac{p-3}{2!}+\frac{p-4.p-5}{3!}+\&c.\right\}+1$$

when and when only p is prime.

Ex. gr.—Let $a=3$, $b=2$, then

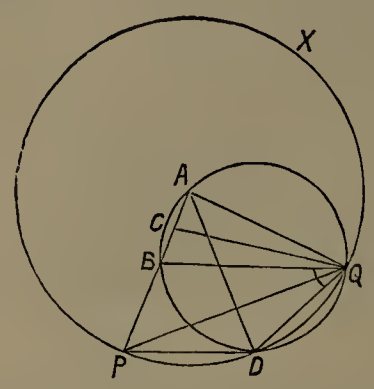
$$7^2-5.2^2=7\{1+2+1\}+1.$$

Here 3 is the 4th term of the series, and $p = 7 = 2 \times 4 - 1$.

Again, let $a = 5$, $b = 3$; then $11^2 - 5 . 3^2 = 76$. Here $a = 5$; and, since $2 \times 5 - 1 = 9$, which is *not* a prime, the equation fails.—*Vide Nature*, May 6, 1897.]

13627. (W. J. Dobbs, M.A.)—The straight line AB is produced to P, so that rect. AP . PB = sq. on AB. In the straight line which bisects AB in C at right angles, a point Q is taken such that BQ = AP. Prove that QB bisects the angle CQP.

Solutions (1) *by* Rev. W. J. Constable, M.A.; (2) *by* Rev. S. J. Rowton, M.A., Mus.D.



Construct as required. With centre A, describe circle PDX; place PD in it equal to AB. Describe circle ABD.

Then, as in IV. 10, APD is a triangle having each of its angles at base double of vertical angle, and it may easily be shown that Q lies at intersection of the two circles [BQ = AP and BQ = AQ, &c.]

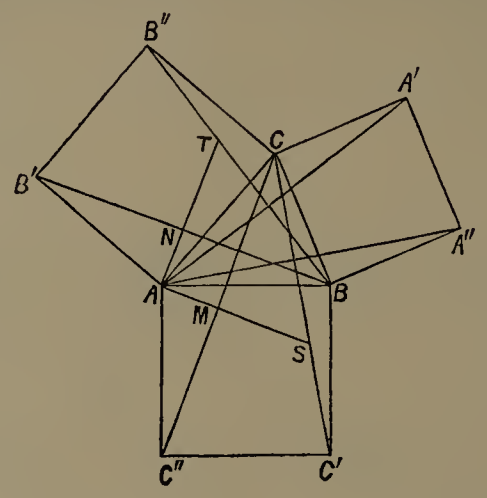
Hence, it follows

$\angle PQD = \frac{1}{2}PAD$, $\angle BQD = BAD$;

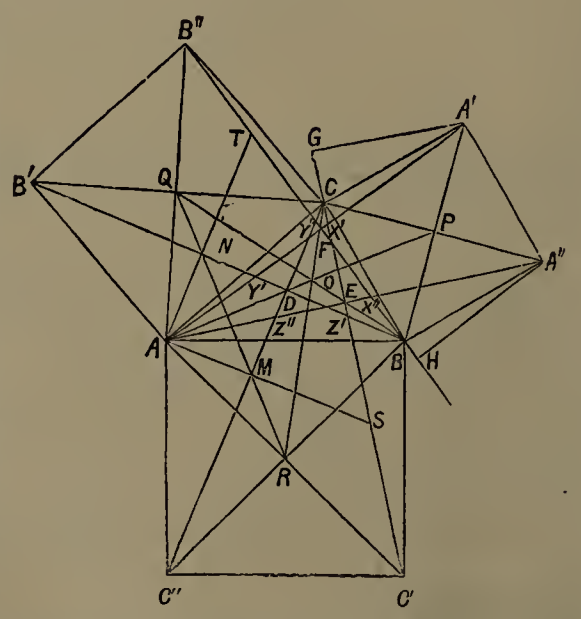
$\therefore$ $\angle BQP = \angle \frac{1}{2}PAD = \angle CQB$,

for AQB and APD are equal in all respects. [The rest in Volume.]

13481. (W. S. Cooney, B.A. T.C.D.)—If squares AB′B″C, CA′A″B, BC′C″A be described on sides of any triangle ABC, and AA′, AA″, BB′, BB″, CC′, CC″ be drawn from each angle of triangle to opposite corners of squares, then (1) triangle formed by intersections of AA′, BB′, CC′ equals triangle formed by AA″, BB″, CC″; (2) the three circles round quadrilaterals formed by AA′, AA″, CC′, BB″; BB′, BB″, AA′, CC″; CC′, CC″, BB′, AA″ have a common point O, which connects collinearly with any angle of the triangle A, the centre of opposite square, and intersection of CC″ and BB′; (3) if perpendiculars AM, AN be drawn to CC″ and BB′, and produced to meet CC′ and BB″ in S and T, then AS = AT, and O is centre of completed square AST, and of each square similarly described at B and C; (4) MN is Simson's line for point A for lines BB′, CC″, BC″, CB′.



Solution by H. W. Curjel, M.A.



Let P, Q, R be the centres of the squares on BC, CA, AB; and CC′ cut AA′, AA″, BB′ in X′, E, Z′; CC″ cut BB″, BB′, AA″ in Y″, D, Z″; AA′ cut BB′, BB″ in Y′ and F; and AA″ cut BB′ in E.

△QAR is clearly similar to the two equal △s B′AB, CAC″; and

AQ : AB′ = 1 : $\sqrt{2}$;

and each of the angles which the sides of △QAR make with the corresponding sides of △s B′AB, CAC″ = ½ right angle; therefore QR is a diagonal of the square of which AD is the other diagonal (*i.e.*, of ANDM), since AN = AM.

Therefore QR passes through MN; therefore MN is Simson's line of A for the lines BB′, CC″, BC″, CB′ ..... (4).

[The rest in Volume.]

13629. (R. F. Muirhead.)—Prove that the expression

$$\alpha(\alpha-1)(\alpha-2)\ldots(\alpha-r+1) + r.\alpha(\alpha-1)\ldots(\alpha-r+2)\beta + \frac{r(r-1)}{1.2}\alpha(\alpha-1)\ldots(\alpha-r+3)\beta(\beta-1) + \ldots + \beta(\beta-1)(\beta-2)\ldots(\beta-r+1)$$

is unaltered in value when we change α into $\alpha+1$ and β into $\beta-1$.

Solutions (1) *by* Lionel E. Reay, B.A., *and* H. W. Curjel, M.A.; (2) *by* Prof. T. Savage, M.A.; (3) *by* Rev. J. Cullen, B.A.

(1) By Vandermonde's theorem, the given expression

$$= (\alpha+\beta)(\alpha+\beta-1)(\alpha+\beta-2)\ldots(\alpha+\beta-r+1).$$

This is a function of $\alpha+\beta$ only, and is therefore unchanged when α and β vary subject to the condition $\alpha+\beta$ = const. The question proposed is thus only a particular case of Vandermonde's theorem.

(2) For α write $\beta-1$, and for β write $\alpha+1$ in the given expression; then write the resulting series in the reverse order.

(3) Let the expression $= u_{\alpha,\beta}$. Then

$$\Delta_\alpha u_{\alpha,\beta} = \Delta_\beta u_{\alpha,\beta}; \quad \text{therefore } (1+\Delta_\alpha)u_{\alpha,\beta} = (1+\Delta_\beta)u_{\alpha,\beta},$$

or

$$u_{\alpha,\beta} = E_\alpha E_\beta^{-1} u_{\alpha,\beta} = u_{\alpha+1,\beta-1}.$$

[Professor Sanjána puts the following query:—Does the proportion hold good when α is fractional, and when $\alpha-r+1$ is negative? For a similar result in combinations, where *repetitions are allowed*, see Quest. 13403.

The Proposer, in reply to Professor Sanjana's question, says: "The identity *does* hold for *all* values of α and β, though by the form of the question r is necessarily a positive integer. This follows at once from the fact that the identity depends on Vandermonde's Theorem." And he adds: "Professor Savage's reply indicates a simple way of proving Vandermonde's Theorem by mathematical induction when the numbers concerned are integral."]

13622. (R. F. Davis, M.A.)—Prove that the value of the quasi-continued fraction $\frac{12}{\sqrt{10+}}\,\frac{12}{\sqrt{10+}}\,\frac{12}{\sqrt{10+}}\ldots$ *ad inf.* is $12 \div 3{\cdot}64575134 = 3{\cdot}2915026$.

Solution by H. W. Curjel, M.A.

Let value $= x$. Then $x = \dfrac{12}{\sqrt{10+x}}$;

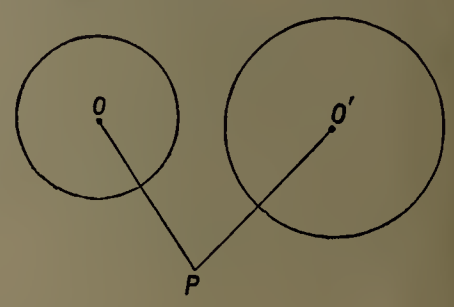
therefore $x^3 + 10x^2 - 144 = 0$, or $(x+6)(x^2+4x-24) = 0$.

The positive root of this

$$= \sqrt{28} - 2 = 5{\cdot}2915026 - 2 = 3{\cdot}2915026.$$

13616. (John Sadler.)—Find the locus of the centres of all circles which touch two fixed (unequal) circles (which already do not touch one another).

Solution by Lionel E. Reay, B.A.; *and* W. E. Jeffares, B.A.



(1) Circle touching circles O and O′ externally,

$PO - a = PO' - b$;

$\therefore$ $PO - PO' = a - b$;

therefore locus of P is one branch of the hyperbola whose foci are O and O′, and transverse axis $a-b$.

(2) Touching both internally,

$PO + a = PO' + b$;

$\therefore$ $PO' - PO = a - b$;

therefore locus of P is the other branch of this hyperbola.

[The rest in Volume.]

7562. (R. Knowles, M.A.)—Prove, and verify (when $x = 0$), that

$$1 + \frac{1+x}{1.2} + \frac{(1+x)(1+2x)}{1.2.3} + \&c. \textit{ ad inf.} \equiv (1+x)^{1/x} - 1.$$

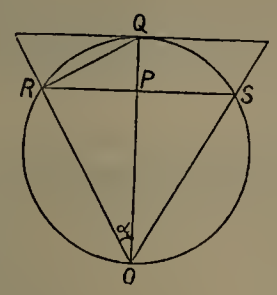
Solution by H. J. Woodall, A.R.C.S.

$$(1-x)^{-1/x} = 1 + (-1/x)(-x) + \&c.$$
$$= 1 + 1 + (1+x)/(1.2) + (1+x)(1+2x)/(1.2.3) + \&c.$$

When $x = 0$, this is the exponential theorem.

5154. (Professor Townsend, F.R.S.)—A cone of revolution of uniform density being supposed to float with vertex downwards and axis vertical in a gravitating fluid of greater density; show that the sphere having its axis for diameter will intersect its surface in the limiting circle of flotation consistent with the stability of its equilibrium under the action of gravity.

Solution by Rev. J. Cullen, B.A.



Let OP be the portion of the axis OQ immersed.

Then $\quad Ak^2 = \pi OP^4 \tan^4 \alpha/4$,

$V = \pi OP^3 \tan^2 \alpha/3$; $\quad \therefore \quad HM = 3OP \tan^2 \alpha/4$,

and $\quad HG = \frac{3}{4}OQ - \frac{3}{4}OP$.

Therefore equilibrium is stable or unstable according as $OP \tan^2 \alpha >$ or $< OQ - OP$; in other words, the distance OP of the limiting circle from the vertex $= OQ \cos^2 \alpha$. But, from the figure, $\quad OP = OR \cos \alpha = OQ \cos^2 \alpha$.

Hence the question.

QUESTIONS FOR SOLUTION.

13660. (The late Professor Sylvester, F.R.S.)—Let F_j mean the whole number of *proper* vulgar fractions that can be formed with integers none exceeding j. Show that, when j is an integer,

$$F_j + F_{\frac{1}{2}j} + F_{\frac{1}{3}j} + F_{\frac{1}{4}j} + F_{\frac{1}{5}j} + \ldots = \tfrac{1}{2}(j^2 + j).$$

Ex.—Let $j = 6$, $F_6 = 12$, $F_3 = 4$, $F_2 = 2$, $F_{\frac{6}{4}} = F_{\frac{6}{5}} = F_{\frac{6}{6}} = 1$,

$$12 + 4 + 2 + 3 = \tfrac{1}{2}(6 \,.\, 7).$$

13661. (Professor Crofton, F.R.S.)—Of the arcs joining the mid-points of the sides of a spherical triangle, if one is 90°, the other two are also 90°, and the area of the triangle is $\frac{1}{4}$ of the sphere.

13662. (Professor Neuberg.)—L'angle BAC d'un triangle ABC est donné en position; on connait aussi la longueur de la médiane AM. Trouver l'enveloppe de la base BC.

13663. (The late Professor Wolstenholme, M.A., D.Sc.)—Normals to the parabola $y^2 = 4ax$ at the points P, Q, Q′ meet in a point, and QQ′ passes through the fixed point $(-c, 0)$: the envelope of the circle PQQ′ will be the pedal, with respect to the origin, of the parabola

$$4ay^2 = c^2(x - 4a + c).$$

The origin (A) is a double focus of the envelope (which is a limaçon), and there are two single foci S_1, S_2 at the points $(-c, 0)$, $(c - c^2/4a, 0)$; the vector equation being, for the infinite branch,

$$(c - 4a) \,.\, S_1P + 4a \,.\, S_2P = c \,.\, AP.$$

When $c = 4a$, the envelope is the pedal of the parabola itself with respect to the vertex (a cissoid), which is then a triple focus, and the vector equation becomes nugatory. When $c > 4a$, there is no oval branch. When $c = 8a$, the envelope becomes the straight line $x + 4a = 0$, S_1, S_2 coincide, and the vector equation is $S_1P = AP$.

13664. (Professor Rogel, LL.D.)—Prove that

$$lz < \sqrt{\{2^{\frac{1}{2}n(n-1)}(z-1) + 1\}} - 1 \quad (lz > 0),$$

and

$$lz < \sqrt[n]{\{2^{\alpha+1}(\tfrac{1}{2}m)^m m^\alpha (z-1) + 1\}} - 1,$$

where $m + \alpha = n$, $m = 2^p$, α an integer $< 2^p$.

13665. (Professor Sanjána.)—On the side BC of a triangle ABC a rectangle is outwardly described, and A is joined to its opposite angles by lines meeting BC in K and k; KL, LM, MN, NP, ... and kl, lm, mn, np, ... are drawn alternately perpendicular and parallel to BC, and terminated by AB, AK and AC, Ak; S denotes the area between the broken lines K, L, M, N, P, ... and k, l, m, n, p, ..., and Σ the area of the remaining part of the triangle. Similar rectangles being described on CA, AB, let S′, S″ denote the areas between the corresponding broken lines, and Σ', Σ'' the remaining parts of the triangle. Then prove that $\Sigma/S + \Sigma'/S' + \Sigma''/S'' = \rho \cot \omega$, where ω is the Brocard angle, and ρ the ratio of the sides of the similar rectangles. [When $\rho = 1$, s is the sum of all inscribed squares between BC and A. The proposition is true for obtuse-angled triangles.]

13666. (Professor Thomas Savage, M.A.)—Given in magnitude the side AB of the triangle ABC, in position and magnitude the internal bisector AD of the angle BAC, and the centre of the circumcircle of the triangle ADC, to construct the triangle ABC.

13667. (Editor.)—Find the value of the *definite integral*

$$\int_0^{\frac{1}{2}\pi} \left(\frac{\cot^2 \theta - \cos \theta \log \cot \frac{1}{2}\theta}{4 \cot^2 \frac{1}{2}\theta + 3} \right) d\theta.$$

13668. (D. Biddle.)—It is known that the opposite edges of a tetrahedron are equal, and the trilinear coordinates of the projection of the apex on the base are given. Find the cubic contents.

13669. (W. H. Blythe, M.A.)—AB, CD are two unequal parallel chords of a circle; a point P moves so that the angle APB = CPD. Take A′, C′ any two points on this curve. Show that it is possible to take two other points B′, D′ so that P may be considered as the locus of intersections of pairs of circles described on the fixed chords A′B′, C′D′, where, if O, O′ be the centres of any pair, and OM, O′N perpendiculars to A′B′, C′D′ respectively, then OM bears a fixed ratio to O′N.

13670. (Rev. W. Allen Whitworth, M.A.)—Within a closed figure S, n points are taken at random, and are marked P_1, P_2, ... P_n in ascending order of their distances from any fixed point O. With O as centre of similitude, n figures S_1, S_2, ... S_n are drawn similar and similarly situated to S, passing respectively through P_1, P_2, ... P_n. Show that the expectation of the area S_r is to the area S as r to $n + 1$.

13671. (R. F. Davis, M.A.)—If ABCD is a quadrilateral whose diagonals AC, BD intersect in O, and α, β, γ, δ are the circumcentres of BCD, ACD, ABD, ABC, respectively, prove that $\alpha\beta$, $\beta\gamma$, $\gamma\delta$, $\delta\alpha$ are inversely proportional to the perpendiculars from O on CD, DA, AB, BC, respectively.

13672. (R. Knowles, B.A.)—M is the mid-point of PQ, a chord of a rectangular hyperbola centre C; CM meets the curve in D; perpendiculars PN_1, QN_2, DN_3 are drawn to either of the asymptotes. Prove that

$$PN_1 \,.\, QN_2 = DN_3^2.$$

13673. (W. J. Dobbs, M.A.)—H and K are two points on the circumcircle of a triangle such that their join passes through the orthocentre P. Show that the locus of the intersection of the Simson-lines corresponding to H and K is an ellipse circumscribing the pedal triangle, and having its centre at P. Show also that, if DPE is the diameter of the circumcircle which passes through P, then DP and PE are equal to the axes of the ellipse, and that the Simson-lines of D and E intersect at right angles at the fourth point common to the ellipse and the nine-point circle of the triangle.

13674. (Rev. J. Cullen, B.A.)—If

$$(2p/n)^{n/(n-2)} - p\,(2p/n)^{2/(n-2)} + r = 0,$$

then

$$n^n r^{n-2} - 4p^n (n-2)^{n-2} = 0.$$

13675. (J. Brill, M.A.)—Given the eight differential equations

$$\left.\begin{aligned} du_1 &= w_1 d\phi_1 + v_1 d\psi_1 \\ dv_1 &= u_1 d\phi_1 + w_1 d\psi_1 \\ dw_1 &= v_1 d\phi_1 + u_1 d\psi_1 \end{aligned}\right\}, \qquad \left.\begin{aligned} du_2 &= w_2 d\phi_2 + v_2 d\psi_2 \\ dv_2 &= u_2 d\phi_2 + w_2 d\psi_2 \\ dw_2 &= v_2 d\phi_2 + u_2 d\psi_2 \end{aligned}\right\},$$

$$d\phi_1 + d\phi_2 = 0, \quad d\psi_1 + d\psi_2 = 0,$$

prove that

$$v_1 w_2 + v_2 w_1 + u_1 u_2 = \text{const.},$$

$$w_1 u_2 + w_2 u_1 + v_1 v_2 = \text{const.}, \quad u_1 v_2 + u_2 v_1 + w_1 w_2 = \text{const.}$$

13676. (G. E. Crawford, M.A.)—P is a fixed point, PV a fixed direction, and VQ is drawn from any point V in it in a fixed direction of such a length that $QV^2 = 4k \,.\, PV$, where k is constant. Without reference to the properties of the parabola, prove geometrically that we can find another point P′, and another line P′V′ parallel to the former line PV such that, if QV′ is drawn in any given (fixed) direction to meet it, $QV'^2 = 4k' \,.\, PV'$. (When the given direction is perpendicular to the system of PV lines, the property $PN^2 = 4AS \,.\, AN$ follows.) Prove also, *ab initio*, that Q moves so that its distance from a certain fixed point is always equal to its distance from a certain fixed straight line.

13677. (W. E. Jeffares, B.A.)—If α, β, γ be the roots of

$$ax^3 + 3bx^2 + 3cx + d = 0,$$

find the equation whose roots are

$$(\beta-\gamma)^2(2\alpha-\beta-\gamma)^2, \quad (\gamma-\alpha)^2(2\beta-\gamma-\alpha)^2, \quad (\alpha-\beta)^2(2\gamma-\alpha-\beta)^2.$$

13678. (Rev. T. Mitcheson, B.A.)—In the triangle ABC, let AB be produced to F, CA to E, and BC to D; bisect the exterior angles by lines intersecting at α, β, and γ, thus forming the triangles $\alpha\beta\gamma$, BαC, AβC, and AγB. These triangles are equiangular, each angle being the arithmetical mean of the corresponding pair of the angles of ABC.

13679. (H. W. Curjel, M.A.)—An elastic band passes round two fixed pegs and a pencil point. Find the curve described by the latter when the resultant pressure exerted by the band on it is constant.

13680. (I. Arnold.)—ABC is a triangle, the angle A being 30°, and AC and AB 80 and 50 respectively. The angle BAP is 30°, and AP = 40. PEF is drawn cutting AB in E, and AC in F, so that EF bisects the triangle ABC. It is required to find the lengths of AE and AF.

13681. (J. Woodcote West.)—If

$$\epsilon^{\int dy\,(P/M)} \quad \text{and} \quad \epsilon^{-\int dx\,(P/N)}$$

are both multipliers which render $M\,dx + N\,dy = 0$ integrable, then

$$\epsilon^{n\int dy\,(P/M) + (n-1)\int dx\,(P/N)}$$

is also such a multiplier.

13682. (R. W. D. Christie.)—A father leaves a fortune of £46,189 to his four sons. The eldest gets a number of elevenths, the second thirteenths, the third seventeenths, and the fourth nineteenths, all the amounts being integral. The balance of £2,151 was given to charities. Find the amounts.

13683. (W. C. Stanham.)—P is a point on a rectangular hyperbola whose centre is C, and Q is a point on CP such that CP . CQ is constant. QR is drawn to meet an asymptote at R so that the angle CQR is twice the angle RCQ. (1) Find the envelope of QR, and show that, if O is the centre of a circle of curvature of the envelope, and CT the tangent at T to this circle, the area of COT is constant. (2) Write down (without showing how it is obtained) the polar equation of the evoluto of the envelope, when $r^2 \sin 2\theta = a^2$ is the equation of the hyperbola, and

$$CP \,.\, CQ = 3na^2.$$

13684. (J. C. Wasson.)—ABC is a triangle inscribed in a circle, and α, β, γ are three points on the circle such that

$$\text{arc } A\alpha + \text{arc } B\beta + \text{arc } C\gamma = (2n+1)\pi.$$

The nine-point circle of the triangle formed by the Simson-lines corresponding to α, β, γ is the nine-point circle of the original triangle ABC.

13685. (Salutation.)—A striking timepiece is allowed to run down before being wound up. It has on its face two holes for the key, and over these the shafts (equal in breadth) of the hands pass in their circuit. The holes are so placed that the hour-hand occludes one from 7.39 to 8.21, and the other from 3.39 to 4.21. The clock being equally likely to stop at any moment, find the chances (1) that one at least, (2) that both, of the holes will be clear for winding.

13686. (Professor J. C. Malet, F.R.S.)—Let A, B, C, D be the corners of one face of a cube, and E, F, G, H be the corners of the cube diametrically opposite to A, B, C, and D, respectively. Then, if p_1, p_2, p_3, p_4, p_5, p_6, p_7, and p_8 be perpendiculars let fall from A, B, C, D, E, F, G, and H on any plane which does not cut the cube, and a be the length of the edge of the cube, prove that

$$p_1^2 + p_2^2 + p_5^2 + p_6^2 - 2p_3p_5 - 2p_4p_8 = 2a^2.$$

13687. (Lt.-Col. Allan Cunningham, R.E.)—Factorize

1,000,000,000,000,000,027 and 27,000,000,000,000,000,001.

13688. (Professor A. Droz-Farny.)—Soit AB une corde quelconque d'une parabole P, parallèle à la tangente en un point fixe C de P. Par les points A et B on fait passer une circonférence tangente en D, à la tangente fixe du point C. Le diamètre du point C coupe AB en L et la circonférence en M. LM est égale au double du rayon de courbure de C.

13689. (G. Hale Puckle, M.A.)—If $\phi(xy) = 0$ represents a central conic, and the same assumptions are made as in Quest. 13535, No. 437, then (1) the tangents at the vertices, and (2) the parallels to them through the foci, are determined by the equations

$$\alpha(ax+hy+g) + \beta(hx+by+f) + e\Delta^{\frac{1}{2}} = 0 \quad \ldots\ldots\ldots\ldots\ldots (1),$$

$$\alpha(ax+hy+g) + \beta(hx+by+f) + e^2\Delta^{\frac{1}{2}} = 0 \quad \ldots\ldots\ldots\ldots\ldots (2).$$

13690. (Rev. T. Mitcheson, B.A.)—If the nth term of a series be $n(nx+y^n)$, find S_n. I make

$$S_n = nx/6\,.\,(2n+1)(n+1) + \{y(1-y^n) - ny^{n+1}(1-y)\}/(1-y)^2.$$

Is there a simpler result?

NOTICE TO CORRESPONDENTS.

It is requested that all Mathematical communications should be sent to

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NOTICE.—Vol. LXVII. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.; to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

The Annual General Meeting of the Society will be held on the evening of November 11, when the following gentlemen will be nominated for election on the Council for the ensuing Session:—Prof. Elliott, F.R.S., President; Major MacMahon, R.A., F.R.S., and Dr. Hobson, F.R.S., Vice-Presidents; Dr. J. Larmor, F.R.S., Treasurer; Messrs. R. Tucker, M.A., and A. E. H. Love, M.A., F.R.S., Hon. Secretaries; ordinary members, Lt.-Col. Cunningham, R.E., Dr. Glaisher, F.R.S., Prof. Hill, F.R.S., Prof. Hudson, M.A., Messrs. M. Jenkins, M.A., A. B. Kempe, F.R.S., F. S. Macaulay, M.A., D. B. Mair, M.A., G. B. Mathews, F.R.S., and W. D. Niven, C.B., F.R.S.

The following papers have been received:—

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The Educational Times.

Universities in the Air.

New Universities are in the air—shall we say that they are in the air in two senses? Our Oxford correspondent refers to the action (not particularly wise action, as it appears to us) which is apparently being taken by the Council of Holloway College, with a view to giving practical effect to the suggestion that women should have a University of their own, in which they should teach each other, and give each other degrees. We have more than once expressed our opinion that a University limited by considerations of sex is an anachronism, and that a new University established for women only would be an anomaly. It would have no relation to any principle or discrimination in the intellectual sphere, and that fact alone seems to condemn the idea to sterility, even if it were found to be practical in the first instance. We do not believe that it is practical; for a women's University without an endowment of site, buildings, and maintenance funds representing a deposit of something like a million sterling would be no better than a University *pour rire;* and who is going to give a million—in days when no one will give 1 per cent. of that sum for the urgent needs of Cambridge—in order to aggravate and perpetuate the unreal sex-distinctions in education which the past generation has been gradually sweeping away? We are convinced that women students can gain at a mixed University, under the authority and government of men, advantages which they would not be likely to secure under exclusively female authority and government. And this is not merely a deduction from physiology, from human experience and historical record; it is, at the same time, a demonstrated fact. We are not aware that any of the scores of Universities which graduate their successful women students has repented of its action, or desired to withdraw the facilities which it has once created. No doubt Oxford and Cambridge have withheld, at the last moment, a boon which they seemed to be on the point of granting. We honestly believe that they have erred through excess of caution, and it is unfortunate that even a few women should appear to have looked upon the recent votes at our two ancient Universities as irrevocable and final.

If we mention, in passing, the two projected Universities in Ireland and at Birmingham, it is certainly not because we regard them as in any sense chimerical. They are clearly destined to speedy realization; but we should not like to make the same prediction about the University of Westminster, whereof a somewhat elaborate scheme, accompanied by "draft heads for the proposed charter," has now been circulated. In the words of the preliminary statement,

> The withdrawal for the third time of the London University Commission Bill (a result mainly due to the opposition of Members of Convocation of the University, an opposition based upon grounds which appear to many to be well founded), and the complete failure of the attempts, now continued over a period of twenty-one years, to obtain the unanimous support of the various parties concerned to any of the schemes hitherto put forward, either for the reconstruction of the University of London upon "teaching" lines or for the foundation of a new University, must be held to justify another attempt being made to solve the pressing question of the establishment of a real University for London, based upon lines which differ essentially from those of any former scheme, and drawn up without bias as regards any faculty of the University or existing institution. That an urgent need exists for such a University, that the present University of London has done a great work and has established for its degrees a very high reputation, but that, as a mere examining and degree-giving body for students from all parts of the kingdom and from the colonies, it is in no sense a *London* University, are facts admitted in the reports of both the Royal Commissions which have considered the question. As an illustration of the fact that London, the capital city of the Empire, is at the present time without a University, it may be stated, for the information of those who are not conversant with the nature of the existing University, and without fear of contradiction, that, if it were removed to-morrow to a provincial town (*e.g.*, Birmingham), the whole of the educational work now being done in London would continue without interruption or change; and in such an event its claim to be regarded as the University of *London* would be precisely the same as at present.

Even if this were granted, it leaves untouched the main question at issue. There is at this moment a London University, which cannot be converted into a Birmingham University or a London Examining Board. It is a foundation of high authority and repute, even though it does not teach; and nothing will get over the fact that a new University in London, whether you call it by the name of Westminster or Cockaigne, would introduce rivalry, overlapping, confusion, and detriment to education. The promoters of the new scheme are actuated by the best intentions; we do not for a moment suspect them of a desire to get rid of the Cowper Scheme for the supposed benefit of existing London graduates and out-students. But it seems to us that the adoption of another name would not obviate the mischief of having two Universities in the capital of the Empire, nor can we see any reason for changing our opinion that it is the interest and duty of the State to develop the University which it has created and nominally endowed, by affiliating to it the greater facultative colleges and schools.

As for the constructive features of this scheme, they have been carefully thought out, and they are in general accordance with the ideas of the Cowper Commission Report. For instance,

in regard to the formation of faculties, the suggestion is as follows:—

The Inns of Court and the Incorporated Law Society to be invited to organize themselves as a Faculty of Law, taking in the Professors of Law in University and King's Colleges. The Royal Colleges of Physicians and Surgeons, the Society of Apothecaries, University and King's Colleges in respect of their faculties of medicine, the medical schools of St. Bartholomew's Hospital, Charing Cross Hospital, St. George's Hospital, Guy's Hospital, the London Hospital, St. Mary's Hospital, the Middlesex Hospital, St. Thomas's Hospital, and the Westminster Hospital and the London School of Medicine for Women to be invited to organize themselves as a Faculty of Medicine. University and King's Colleges and their Professors in Arts and Science, together with the Royal College of Science, the City and Guilds of London Institute, and the Bedford College for Women and their professors, to be invited to organize themselves as the two Faculties of Arts and Science. King's College in respect of its faculty of Theology, and the following theological colleges, viz., Hackney College, New College, the Presbyterian College, Regent's Park College, Cheshunt College, and Richmond College, to be invited to organize themselves as a Faculty of Theology. The Royal Academy of Music, the Royal College of Music, the Guildhall School of Music, and Trinity College, London (Music), and their professors to be invited to organize themselves as a Faculty of Music.

It is unnecessary to enter further into details, for we can but regard the University of Westminster as a castle in the air. The General Committee for promoting the grant of a charter seems to be almost, if not entirely, composed of medical men at the London hospitals, with Messrs. J. K. Fowler and Isambard Owen as honorary secretaries. We trust that this proposal is not to be taken as the last word of the medical schools on the subject of a new University; but it is clear that no very serious attention can be paid to a scheme put forward by only one of the intended six faculties.

School Journeys.

We have heard a good deal of late in reference to "school journeys"; but, before we conclude that everything educational made in Germany is necessarily good for England, and ought to be transplanted with the least possible delay, it may be well to consider what is the avowed object of this institution in Germany, and whether there are factors in English school life which answer the same purpose. We are not going to belittle school journeys, but only to protest against exaggeration. We are told that, when a master sets out for a walking tour of a week or a fortnight with a number of his scholars, he has excellent opportunities of becoming acquainted with their "out-of-school" characters—a very different thing from the assumed class-room code of behaviour; and that he can study individual traits and, generally speaking, get to know his boys and become their friend. The object is an excellent one, but it does not greatly appeal to us, because in England we effect the same thing by means of games, swimming clubs, natural history societies, and the like.

With regard to the study of geography, whether physical, commercial, or political, there can be no question of the value of these excursions, whether long ones to distant towns or short ones in the neighbourhood of the school itself. But, when we are bidden to look at the great opportunity for eliciting and guiding the powers of observation, we may justly reply that we attain the same ends in our chemical and physical laboratories.

The school journey has an advantage in bringing the children into more actual touch with the physical world, and also in testing and strengthening their powers of endurance. A fortnight's tour as arranged by a German schoolmaster is no bad apprenticeship for compulsory military service. For these journeys are no child's play. For months beforehand there is preparation in the class-room; history, geography, literature, commerce, &c., are studied in reference to the part of the country to be visited. And there is physical preparation, too, in the playground. The actual carrying out of the programme entails much hard work. Long distances are covered; notebooks are ever in hand; and calculations and criticisms are "written up" each day after the walk is over. No luxuries of food or bed are permitted.

It must be freely allowed that what the German schoolmaster does he does thoroughly. To some extent, and no doubt in a less complete way, we have the same kind of thing in England. There are masters who take a class out botanizing, and such an expedition is no doubt connected with the school work. Geology, again, is, by most teachers, advanced by geological excursions. Natural history societies are common in schools, and do great good.

But the main reason why the school journey, as understood in Germany, could not, under present conditions, be naturalized in England is this. Deny it as we will, it is nevertheless true that the schoolmaster is ashamed of his profession. When his work is done he wants to get right away from his boys. He wants to forget that he is a schoolmaster, and to become for an interval an ordinary member of society. Of course, this is the inevitable result of the artificial life that many schoolmasters lead. While this feeling remains it would be hopeless to ask a man to lead twenty or forty boys along public roads, into railway trains or public museums. There is no work more detested than the compulsory walk and church parade which the junior masters in preparatory schools have to supervise. This *mauvaise honte* appears to be deeply rooted in the English character, and while it is so we shall never find a large number of men to follow the German lead. There are some, however, who do it. Holiday walking tours are not unknown, and the idea of the public-school summer camps is not very dissimilar.

Still, while admitting the impossibility of transplanting this foreign plant, we may encourage the growth of a similar home production. Visits to the British Museum of a picked group of classical boys; gas-works and the like for the modern-side boy; visits to factories and picture galleries; half-holiday excursions to find some stones or plants previously spoken of in the lecture-room or laboratory: these are of great use, not only in making the work more real—what use, for instance, are class-room notions of physical geography unless illustrated by the formation of the country round the school?—but by bringing the boys more directly in contact with nature.

The school journey is a most interesting development, and the account which Miss Dodd gives, in Mr. Sadler's volume of "Special Reports," of two such expeditions is well worth reading, because it is full of suggestion. Without, however, making a vain attempt to imitate a foreign growth, we may very well go on with our own experiments.

NOTES.

Durham has, on the whole, endorsed the views held by its sister Universities on educational matters. In so far as this third University Conference differed from the other two, it was in the greater prominence of the School Board men. This is to be expected in the North of England. The usual resolutions were

passed—a central authority, controlled by a Minister of Education, responsible to Parliament; a local authority, *not necessarily any existing authority;* and the need for professional education for those who intend to become teachers. The words printed above in italics show a certain hostility to the County Councils. An attempt was also made to strike out the word "secondary," making the resolution apply to all education. It did not succeed; but there is no doubt that the School Board party would like to manage secondary schools. We do not think this will prove to be possible. But the local authority, while based on the County Council, may well include School Board representatives.

The Duke of Devonshire has written to a correspondent that he hopes to introduce a Bill dealing with Secondary Education next session. With the press of Parliamentary business which the Cabinet has already foreshadowed, we are not confident of an early settlement of our difficulties. Indeed we rely more upon the gradual education of public opinion, helped on, of course, by Government influence. Few County Councils make use of their rating powers under the Technical Instruction Acts, for fear of alienating the support of the ratepayers. When the need is more urgently felt, the money will be granted. Little more is needed than to extend the rating power and to change "Technical" into "Secondary." The administrative machinery is all there. And for purely professional questions, it is not too much to hope, from the growing signs of union in our profession, that one day we shall emulate the medical practitioners, and establish a register of our own.

At the recent annual meeting of the Headmasters of Higher-Grade Schools and Schools of Science, the President introduced the burning question of "delimitation." "The local grammar schools," he said, "had failed to attract the scholars of the elementary schools because the fees in most cases were prohibitive, because the curriculum was out of harmony with early training, and because the course of study was not one adapted to the special needs of the scholars." When two people attack one another, fuller knowledge on both sides usually ends in lessening the sting of the attack. Mr. Waugh might find out by inquiring that in many cases the fee is not prohibitive, and in many cases the curriculum is not out of harmony with, but is constructed to meet, the needs of elementary scholars. The general tenor of the address was to the effect that the only way of preventing competition and overlapping was to have amalgamation in educational matters, with control by a responsible Minister. With this we agree; but the time is not yet ripe, and, in the meantime, there is no need for antagonism. Each type of school is doing its part; and, whereas one looks to the School Board, the other can fall back on the County Council for funds.

It is rather pitiable to see how salaries are tending downwards in the scholastic profession, with the natural result that the men of better promise at the Universities are tempted rather to other professions—or possibly they are more inclined to neglect the University altogether. For we notice that in the recent award of scholarships by the colleges at Cambridge, in the case of nearly every college, certain scholarships were not awarded, either because there were no candidates, or because the competitors did not reach the necessary standard. And it is scholarship holders chiefly who feed the profession. As things are, from the point of view of money, it is far better to become an elementary-school master. While we have the *Times* speaking of these salaries as extravagantly estimated by the first Board, and inevitably tending to increase, we find from the agents' lists dozens of men of the highest University rank, and offering all sorts of extra qualifications, willing to take posts in secondary schools at a remuneration which a Board would pay to a teacher with the very minimum Government requirements. It is in our schools as in the Church of England: if the salary fund were fairly divided, there would be no complaint. But, as things are, one man may get £10 and his keep, and another something approaching to £10,000.

An interesting Conference was held last month, in a small way, at Toynbee Hall. The Rev. T. W. Sharpe, who was the chief speaker, made some reasonable remarks on the limits of oral teaching. There can be little doubt that the swing of the pendulum is taking us too far from the old system of difficult tasks. There is too great a tendency now to mingle an overdose of pepsine with the mental pabulum we offer to our pupils. Children need to be left to themselves to think over and work out problems. Oral teaching is undoubtedly good, but it may be carried too far. Under the old *régime* the task was set, and it was the boy's part to do it. Now a conscientious teacher almost feels that he must be teaching directly the whole of his class hours. Let him give his dose of carefully prepared food; let him add what pepsine he thinks needful; but then he must be content to sit quietly by, watching and directing the process of digestion.

It seems as if we were really waking up to the claims of the feeble-minded children, of whom there are unfortunately so many among the English poor. As our readers are aware, the London School Board has centres of special instruction for mentally deficient children, and other Boards are slowly following its example. The failure of Lady Frederick Cavendish's experiment of a home for feeble-minded girls is a disappointment; but the recent establishment of the "National Association for the Care of the Feeble-minded" is a sign of the general quickening of interest in this matter. The aim of the Association is to provide homes, instruction, and employment for such feeble-minded persons as are outside the provisions of the Lunacy Acts. Amongst children of school age it is calculated that over 20,000 belong to this class, though not, of course, to the lowest category. The Association has begun its work by opening a home in West London for girls, who are to be trained in laundry-work, and it looks forward to opening very shortly a country home for boys, who are to be trained in gardening, and in such simple trades as they are able to learn. Meanwhile, we may hope before long to see some good result from the Departmental Committee on the education of the feeble-minded.

By the election of Miss Alice Cooke, M.A., as a representative of Convocation in the Court of Governors, Victoria University has taken a bold, and yet a sensible and prudent, course. Up

to this time no woman in an English University has held a similar post. Miss Cooke is a Fellow of her College, and has done a considerable amount of work in historical research. She is an assistant-tutor in the women's department of Owens College, and, during the absence of the Principal, Miss Wilson, for some months of the present year, Miss Cooke undertook the full responsibility of the department. For two years she has been a member of the Committee of Convocation, and her recent inclusion in the Court is a tribute at once to her abilities and her judgment.

"Palmam quæ meruerunt." In the London B.A. Pass List, published a few days ago, there are twenty-five names in the first class, and fourteen of these are the names of women. The second class contains a hundred and twenty-nine, and fifty-eight of them are unmistakably feminine. That is to say, more than 46 per cent. of the new B.A.'s belong to the sex which is rejected at Oxford and Cambridge. Of course, if the old Universities would graduate those whom they teach (by their professors) and examine, some of these seventy-two women would have gone to them for their degrees. We note, by the way, that twenty-one of the new B.A.'s and ten in the B.Sc. list have studied wholly or in part at one or other of the Welsh colleges. Now that it is possible to graduate in the Principality, the number of Welsh students who come up to London is likely to diminish.

Eulogistic notices of the late J. J. Sylvester, Savilian Professor at Oxford, whom our readers will remember as a frequent contributor to our columns, have appeared in the mathematical and other journals of America, France, Germany, and Belgium. Professor Halsted, writing in *Science* (U.S.A.), says: "When one thinks that Sylvester, William Thomson, Maxwell, Clifford, J. J. Thomson, have all been second wranglers, one asks involuntarily if any senior wranglers, Cayley excepted, have been put on the same parallel with them?" Professor Halsted might have added Whewell and Glaisher to his seconds. But, as to the seniors, what about Paley (to match Whewell), Wollaston, the double seniors Kaye and Alderson, Herschel, Sir George Airy, Main, Stokes, Adams, Todhunter, Tait, Lord Rayleigh, and Cayley aforesaid? However, it must be admitted that there are some heavy weights in the other scale.

SUMMARY.

THE MONTH.

On Saturday, November 13, at the invitation of the Senate of the University of Durham, a conference on secondary education was held in the lecture theatre of the Literary and Philosophical Institution, Newcastle-on-Tyne. There was a large attendance of representatives from various parts of Northumberland, Durham, and Cumberland. The Dean of Durham (Dr. G. W. Kitchin) presided, and, in introducing the business of the conference, said it was full time they should bestir themselves and take a glance at that dreadful chaos—the existing middle education of the people. They wanted an education which would give to all who had to work for the means of their support the means and instruments of success. The conference was not so much on secondary education as on the terms on which the Parliamentary Bill should be drawn, for setting up the organization that should control and foster the education of that great part of our population on which the commercial and manufacturing welfare of the country depended.

The resolutions passed at the Durham Conference were as follows:—

(1) That any scheme for the regulation of secondary education in England should provide for a central authority with clearly defined powers, such authority to consist of (*a*) a reconstituted Education Department, (*b*) presided over by a responsible Minister, (*c*) who shall be advised by an Educational Council, formed of nominees of the Crown, representatives of the Universities of Oxford, Cambridge, London, Durham, and Victoria, and others engaged in secondary education. (2) (*a*) That for secondary-education purposes England should be divided into appropriate areas, such to be not less than a county or an administrative county-borough, with power to combine for the exercise of any or all of their functions. (*b*) That in each administrative area a local authority, which need not necessarily be any existing authority, should be established, whose duty it shall be to provide the secondary education required within the area, and to administer the public funds available for such purpose, such authority to include representatives of the University and members of the teaching profession. (3) That the jurisdiction of the local authority should extend to all schools within the area receiving grants from the funds administered by them, as well as to any other public or private secondary schools which may be willing to accept their supervision; that the local authority should publish a scheme for the co-ordination of education and the grading of such schools within the area; and that this scheme, before being acted on, should receive the sanction of the central authority; provided that the voluntary bodies, religious or otherwise, be allowed to erect schools, and, when they are proved to be efficient and reasonably necessary, be entitled to a share in the public funds. (4) That no legislation for the organization of secondary education will be satisfactory which does not make provision for the registration and professional training of teachers engaged in secondary schools.

Among the speakers were the Bishop of Newcastle, Lord Barnard, the Senior Proctor, Dr. Spence Watson, Dr. Hodgkin, Dr. Corbishley, Father Mann, Dr. R. P. Scott, and Sir Walter Foster.

The annual meeting of the London Society for the Extension of University Teaching was held on November 16, at Fishmongers' Hall. Sir John Lubbock, in moving the adoption of the report, said that the total number of courses had increased in the last five years from 130 to 160, and the entry of students from 13,200 to 14,100. The Society had always been anxious that their lectures should be utilized by the working classes, and he was glad to say that the lectures established in artizan centres had been largely and regularly attended. It had been said that they could not interest that class in higher education, but the results had shown the fact to be otherwise. The Bishop of Bristol, in seconding the motion, said that, if the work which had been accomplished had not been undertaken by some one, and carried on with vigour as it had been, one great refining influence in London would be conspicuous by its absence. When the Society was first formed they were told they could not reach the University standard, but he maintained they were building up a structure the foundations of which were spread far and wide, and to which they saw no limit, and when the University of London was brought into closer relations with their teaching there would be something, indeed, to justify the Society's existence. The resolution was supported by Sir John Evans, Mrs. Fawcett, and Dr. Roberts, and carried unanimously.

A meeting was held at the Church House, Westminster, on November 16, the Master of Trinity College, Cambridge, in the chair, to consider how to commemorate the great services of the late Dean of Llandaff to Harrow School. Those present included Earl Spencer, Sir J. Kennaway, M.P., the Bishops of Peterborough, Winchester, and Durham, Mr. W. H. Long, M.P., Sir F. H. Jeune, K.C.B., Dr. Welldon, Headmaster of Harrow School, Mr. S. Hoare, M.P., and Mr. Lascelles. Expressions of sympathy with the object of the meeting came from the following among other absentees:—The Duke of Abercorn, the Marquess of Ormonde, Earl of Harrowby, Lord Rowton, Lord Saye and Sele, the Earl of Mount Edgcumbe, Lord Clarendon, Lord Knutsford, Lord Moncrieff, Sir C. Hall, and the Dean of Canterbury. A committee was appointed to carry out the objects of the meeting.

On November 13, we learn from the *Guardian*, an epilogue was spoken at Charterhouse School, after the Old Carthusian theatricals, on the acceptance of the Mastership of Charterhouse by Canon Haig Brown, Headmaster of Charterhouse from 1863 to 1897. The epilogue concluded as follows:—

Yet not "Farewell!" What though he "leave the school"?
His presence still can cheer, his precepts rule.
In wisdom ripe, by long experience tried,
Still, though not here, our counsellor and guide,
While tenderest hands each human ill assuage,
And growing honour crowns advancing age,
Long may he live, of all our loves possessed,
The first of Old Carthusians and the best!

Sir George Hayter Chubb, Treasurer of the governing body of the Leys School, Cambridge, informs us that the recent Wesleyan Methodist Conference had before it a scheme for placing the Leys School in a thoroughly sound financial position—a position it has never yet occupied, owing to the necessary capital never having been raised. A committee, appointed by the previous Conference, reported that Mr. Ralph Waller and Mr. William Raby had generously offered £3,000 out of trust funds left by the late Mrs. Waller; and to this sum Mr. Ralph Waller was willing himself to add £2,000, provided another £25,000 was raised, so as to clear a total amount of £30,000 off the debt which now burdens the School. The recent Conference, impressed by the great importance of the scheme, as well as by the generous start made to meet the urgent necessity, cordially approved the proposal, and appointed a special committee to act in conjunction with the governing body of the school for the express purpose of raising this £25,000. Several large sums have already been promised towards this amount.

The Vice-President of the Committee of Council spoke at Birmingham on November 17, and took occasion to return to the subject of secondary organization. He began by pointing out that subordinate members of the Government, when making speeches in Parliament, never expressed their own opinions. They were simple mouthpieces, constructed to defend the measures of the Cabinet. But in making speeches out of Parliament they were to be taken in a sense exactly the reverse of the other; they were to be understood as expressing nobody's opinion but their own.

After this self-differentiation, the Vice-President proceeded to discuss the present lack of organization, particularly in its effect upon higher-grade schools, continuation schools, and the distribution of the Parliamentary grant for technical education.

He hoped that Parliament might legislate on this subject, but he confessed that, taught by long experience, he took rather a pessimistic view of the chances of Parliamentary legislation. This question was not one which readily lent itself to piecemeal legislation, and they had a high authority for saying that in the present House of Commons there was very little chance of anything but piecemeal legislation being passed. He confessed that he took the view that the power of modern Parliaments to deal with social questions in a comprehensive way was gradually becoming less and less. They got on very well as long as their official action was confined to making inquiries. They were very great at Royal Commissions and Select Committees, and they amassed enormous quantities of information, but when it came to making use of the information so collected, either by administrative changes or by passing new laws, their ability to carry out reforms appeared to be very small. He had very much more hope from the voluntary co-ordination of authorities concerned than from the wisdom of Parliament.

In Downing Street, if not in Whitehall, they have turned the unfortunate Vice-President into a pessimist. But in the matter of local administration Sir John Gorst is still comparatively hopeful. He said that he felt "quite sure" that the generality of public authorities in great cities would in the long run look only to one thing, and that was to the good of the children. And he added that he was "pretty sure" that, as the electorate became more intelligent and more aware of their own interest in developing this higher education, they would make very short work of any School Board or Town Council which allowed any foolish internecine quarrel to interfere with the general welfare of education.

Our Welsh correspondent writes:—"A meeting of the Central Welsh Board for Intermediate Education was held at Wrexham to consider the reports of the Chief Inspector and the examiners upon the inspection and examination of the county schools. A general report will shortly be issued by the Central Board. The reports lay great stress upon the importance of training the intelligence as well as the memory, and upon the choice of text-books well abreast of modern knowledge. For Welsh districts especially, great stress is laid on making use of the knowledge which the pupils have of the Welsh language for the purpose of acquiring a habit of correct translation into English. In Wales, where the knowledge of English varies very considerably even in adjacent areas, it is extremely difficult to form a correct estimate of the work done by the new county schools. To many of the children, especially in the rural districts, English is a foreign language, and, in the examinations of schools in such districts, this fact has to be taken into consideration. The examiner in geography says: 'It is clear that the lower forms should be examined *viva voce*, and, if possible, by a Welsh-speaking examiner; it is impossible for young pupils with but a small knowledge of English to do justice to themselves and their teachers when examined by papers set in a foreign language.'—On the list of county schools there are at present 80 schools, which are under the charge of 61 headmasters and 19 head-mistresses. There are 135 assistant-masters and 148 assistant-mistresses on the permanent staff. Including the headmasters and the headmistresses, there is a permanent staff of 363 for 6,427 pupils, *i.e.*, a proportion of 1 to 18. Of the pupils in the county schools at present, rather more than 60 per cent. come from urban districts."

According to the annual report of the Cambridge Local Examinations and Lectures Syndicate, the College at Colchester, though it is only just one year old, has already amply justified the faith which inspired its foundation. The number of students attending the various classes exceeded six hundred during the past session. The first Annual Report, after referring to the fact that the University Extension work in the town is now a department of the College, which was established under the auspices of the Colchester Corporation, in direct connection with the University of Cambridge, goes on to say: "We cannot but regard this union as a most important development of educational work in Colchester, and one from which the greatest mutual benefits to both departments may be anticipated. It has already borne valuable fruit in the Pupil-Teacher Centre, which has been successfully started by our Principal, Mr. Lake, and carried on by Mr. Coffin, and we confidently expect that the corporate spirit and feeling of unity which are being thus called forth will lead further progress in various directions of higher education."

The Registrar of the University College of North Wales, Bangor, has received a letter from the Clerk to the Drapers' Company, informing him that the Company will be happy to modify, in the sense suggested by the College, the conditions attached to their grant of £1,000 towards stocking and equipping the College Farm. The grant is therefore now made conditional upon a further sum of £3,000 being raised towards the same purpose before the end of the present session. It has been arranged that students pursuing the ordinary agricultural course at the College shall in future reside for a part of that course in the immediate neighbourhood of the farm, and thus get the benefit of practical training, side by side with the theoretical instruction. The College has now entered upon its tenancy of Lledwigan.

UNIVERSITIES.

(*From our Correspondents.*)

Oxford.

This term has, so far, been uneventful. The vacancies in Council have been filled up by the election, by a large majority, of the Rector of Exeter, and, by a smaller majority, of Mr. Wilson of Magdalen. The Rector passes as a Liberal in academic matters, and takes an active interest in educational movements. Mr. Wilson is a man of considerable learning, but not well known in University affairs.

The Delegates of Local Examinations have put out further regulations relating to the diploma in education. All candidates, with a few possible exceptions in the case of persons already engaged in teaching, will be required to go through the training course at Oxford, and must further have taken a probationary course of teaching in a school approved by the Delegates, during which they must have given not less than one hundred lessons. Holiday courses are being arranged to enable candidates who have already taught for not less than a year to qualify. Twelve

candidates have entered for the examination at Christmas, of whom three are M.A.'s, six B.A.'s, of Oxford, one is still an undergraduate, one is a former student of Lady Margaret Hall, and one a former student of Newnham College. It will be remembered that only graduates and women who have taken a final degree examination at Oxford or Cambridge or the Oxford Second Examination for Women in Honours are admitted to the examination, except such as have resided in Oxford for a certain number of terms as members of the University or students of the Association for the Education of Women. The Delegates thus insure that the teachers on whom they confer the diploma shall have had a University education, and shall at least during the period of training be brought under Oxford influences, whereas the Cambridge examination is open to persons who have received their training elsewhere, and whose attainments are not up to University standards. Both classes of certificates are needed, at least for the present, as teachers are not all University men or women.

The Association for the Education of Women has just published its annual report, which shows a very considerable increase in the number of lectures open to its students. The agitation for the degree has fortunately not made members of the University unwilling to give women facilities for education in Oxford. One professor has withdrawn the permission previously granted, but he is by education a Cambridge man, and is not likely greatly to influence Oxford tutors. The Master of Balliol will be the next President, instead of Mr. Grose, whose appointment as Registrar leaves him but little time to attend to any business beyond his official duties. The Association has lately received from Mrs. Nettleship the generous gift of over three hundred books formerly belonging to her son, Mr. Lewis Nettleship, which will be added to the library founded in memory of her other son, sometime Professor of Latin in the University, and a warm friend to the higher education of women. The books are chiefly philosophical, and will be available for all members and students of the Association. The library now contains nearly fifteen hundred books, the majority of which are classical.

The Council of Holloway College have invited several persons interested in the education of women at Oxford to take part in a discussion on the establishment of a Women's University. It is certain that any proposal to bring the Oxford women students into relation with such a body will meet with the most determined opposition, especially from the women tutors, who are improving their position and taking a larger part in the education of the students and in the direction of their work. No good end is served by trying to convince the world that an Oxford education can be given at Holloway or anywhere but at Oxford, especially when the body with which Holloway would naturally seek to associate itself is the new Teaching University of London. Some excellent Holloway students have come on to Oxford as Home Students to read for Literæ Humaniores after taking Classical Moderations, but the College does not profess to prepare for the chief Oxford schools, though it sends in students for the B.A., B.Sc., and M.A. of London. Four, if not more, of the candidates for the vacant post of Principal have been students at one or other of the Oxford Halls, three of them already holding similar positions in London and elsewhere.

Cambridge.

The Senate has been amusing itself with the discussion of various plans for the apportionment of its newly-acquired sites among the ravenous claimants from the homeless and destitute departments. To put the matter briefly, Downing College has sold to the University a considerable portion of its grounds, and it is necessary to lay down some general plan as to the buildings to be erected. If we can trust the daily press, and the communications of our rulers thereto, we can only believe that the University is in a state of pecuniary depression; the present appears a somewhat inopportune moment to discuss sites for buildings, the erection of which will absorb more money than the University is likely to have at its disposal during the next hundred years or so. The Geological Museum, at any rate, can now be built, and the present Woodwardian Building added to the overcrowded library. A series of graces are shortly to be put before the Senate carrying out a provisional scheme for the distribution of the sites, and we shall then have nothing to do but wait for the patriotic millionaire to provide the sinews of war.

The visit of the Archbishop of Canterbury and the Lord Chief Justice, for the purpose of receiving honorary degrees, was the cause of much festivity and hilarity, official and unofficial. A crowded Senate House welcomed our distinguished guests, and it was a subject of universal remark that the Archbishop looked very far from his age. On descending the steps of the Senate House he offered his arm to the Lord Chief Justice to help him down, speaking as a younger man would to an older one.

The representatives of the daily press seem as yet not to have grasped the fact that officials on duty wear their caps as part of their academical costume, and that no want of courtesy is intended by those who follow the regular rule of the Senate House. The informal festivities were held at Downing College, a considerable number of Her Majesty's judges assembling at the invitation of the Vice-Chancellor, Dr. Hill, to congratulate us on our latest Doctor, the Lord Chief Justice.

Some irresponsible undergraduates concluded the evening's, or rather morning's, entertainment by securely wiring the door where some of the belated guests were finishing off the evening, and, by means of water poured down the chimney, compelled certain notable members of the College to make a Pauline exit through the nearest window.

Once more we hear of projected changes in our examinations: this time it is the "Little-go" which is to be attacked. The General Board of Studies have issued a report expressing their strong dissatisfaction with Paley's "Evidences" as a subject for Part II.; the alternative suggested is a period of Scripture History to be studied in connexion with some portion of the Bible in English; an additional recommendation is to the effect that, if possible, the same subjects should be selected for the Certificate Examinations as for the "Little-go." This is, of course, a sop for the headmasters, and paves the way for another projected measure of reform which will shortly be brought into prominence.

A number of lecturers and teachers have drawn up a memorial setting forth the serious waste of time which ensues from the fact of the October "Little-go" being held at the beginning of the October term; for ten days or a fortnight the unhappy candidates are in a state of complete uncertainty as to their fate, and habits of idleness thus early acquired are hard to shake off in after times. The suggested remedy is to allow candidates to enter for the examination in June, although not yet members of the University; this would, in the opinion of the signatories, give Honour candidates an uninterrupted three years for their new studies. There is much wisdom in this; there is no reasonable doubt that no man should think of reading for a tripos unless he is able to pass the whole of his "Little-go" before actual residence. The solution of the difficulty will probably be found in making the passing of the "Little-go" practically a substitute for an entrance examination at the better colleges, while the others will continue, as before, to take in men who are nescient as to τύπτω, and indifferent as to $x+y$.

Other proposals have been made as to reorganizing the additional subjects; the suggested scheme contains such elements of complication that it will probably fail, owing to the number of possible attacks to be made on points of detail.

A new prize in Physiology is shortly to be instituted, owing to the munificence of the late Mr. Joseph Gedge, M.B. Caius College, who was chief of the medical staff in Sir Samuel Baker's Central African expedition of 1871; it is satisfactory to note that, in accordance with the terms of the donor's will, the prizeman will be appointed by selection and not by the method of examination.

The General Board of Studies, having taken a year to consider the question of making an appointment to the vacant Chair of Surgery, now ask for more time. Grave dissatisfaction is expressed at the present state of affairs, and in the meantime we have no Professor.

The health of the town continues fairly good, though experts are not blind to the dangers caused by the nauseating odours which arise from the sewer gratings in the principal streets. The number of typhoid cases has not been as great as was expected, though serious illness must inevitably arise where people have daily to breathe these noxious exhalations. The Town Council are apathetic and supine as a body, though individuals protest, and the public are indignant. There is absolutely no doubt that the University will find a considerable decrease in its numbers (and fees) if something is not done quickly. The condition of the roads in some of the leading thoroughfares is simply disgraceful; frequently accidents happen; protests are made; nothing is done.

The election of Dr. Kanthack to the Professorship of Pathology has given great satisfaction: the new Professor was brought to Cambridge as a "John Lucas Walker" student, and his present advancement is a proof of the wisdom shown by the framing of

the regulations for the studentship in question—"No selection by competitive examination."

London. The mention of the late Professor C. S. Roy in the Cambridge news of last month reminds us that, for about three years, that gentleman held the post of Professor-Superintendent of the Brown Institution, by appointment of the Senate of the University, who are the trustees under Mr. Brown's will. Professor Roy immediately preceded Mr. Horsley.

The proposals of the Senate for restricting Colonial Examinations, referred to by us in June last, do not seem yet to have become operative; we hear that the applications for local Matriculation Examinations of next January are as numerous as ever. The recent Matriculation Examination was held at nine centres, at which a total of 53 candidates appeared, and 23 passed. At three centres no candidate passed; but, on the other hand, two centres stand out in something like distinction, viz., Jamaica, where 6 out of 7 pass, and Ceylon, where 10 out of 15 pass. This leaves only 7 passes among the other four centres.

At home the three principal degree examinations were held in October. From the examiners' reports there appear to have been about 380 B.A. candidates—slightly fewer than last year, and more than 100 fewer than in 1895. The passes number only 154, and nearly half of these (73, including 15 of the 25 in the first division) are women. For the B.Sc. 98 (including 13 women) pass out of about 210; and for the M.B. 65 out of 108 pass, including 7 women, among whom we notice a daughter of Mrs. (Dr.) Garrett Anderson.

APPOINTMENTS, &c.

Mr. W. M. Starkie, M.A., Fellow of Trinity College, Dublin, has been appointed President of Queen's College, Galway, in place of Sir Thomas Moffett, resigned. It is worthy of mention that Mr. Starkie is a Roman Catholic.

Mr. A. A. Kanthack, M.A., has been elected to the Professorship of Pathology at Cambridge, vacant by the death of Professor Roy.—Mr. Muirhead's appointment as Professor of Moral Philosophy at Mason College vacates the lectureship on Philosophy at Holloway College.—Professor G. C. Richards has resigned the chair of Greek at Cardiff University College.—The professorship of Moral Philosophy at Edinburgh is vacant by the death of Dr. Calderwood.

Mr. W. H. M. Ragg, M.A., Headmaster of Great Yarmouth Grammar School, has been appointed Headmaster of Hereford Cathedral School.—Mr. T. R. Pinder has resigned the headmastership of King Edward's Commercial School, Norwich.—Miss Powell, of Llandilo School, has been appointed Headmistress of Newtown, Montgomery, County School; and Miss Diana J. Thomas, B.A., is the new Headmistress of Dr. Williams's Endowed School, Dolgelly.

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The Winter Meeting for Teachers, which has been arranged under the sanction of the Council of the College of Preceptors, will be held in the College rooms between January 4 and 15, inclusive. One course, however, will be held at the Mercers' School, by permission of Dr. Scott, and with the consent of the Mercers' Company.

The full programme of this Meeting is now in the hands of our readers. It is to be observed that members of the College who desire to have a ticket of admission without charge must apply to the Secretary on or before December 20. The fees mentioned in the programme are for the general public; but half-fees are charged to members of the educational bodies mentioned in the programme.

The Joint Board of the National Froebel Union has issued its syllabus and dates of examination for the ensuing year. It may be obtained, price threepence, from the Secretary of the Union, 4 Bloomsbury Square, W.C.

The Oxford Delegacy for Local Examinations propose to hold another Vacation Course similar to that held in August—the course to consist of a fortnight's work in Oxford during the Christmas holidays (January 1 to 15), and a fortnight's work during the Easter holidays. During the intervening term prepared lessons will be corrected and other aid will be given by correspondence. Fee for the course, £7.10s., £5 payable on January 1. Applications should be sent to M. W. Keatinge, Esq., 59 St. Giles, Oxford. Only a limited number of applications can be received.

The next general meeting of the Assistant Masters' Association will be held on Saturday, January 22, at 4 p.m., with private business (balance-sheet, &c.) from 2.30 to 3.30. It will be proposed to urge again on the Government the need of a Registration Bill, and the importance of a grant for the professional training of those who wish to become qualified as teachers in secondary schools. The dinner will be at the Holborn Restaurant at 7.30.

The Training of Teachers Joint Committee met for the seventh time at Oxford, on November 7. A first draft of the resolutions which have been occupying the attention of the Committee since the spring was completed, and instructions were given to the chairman and secretary to embody these in a brief report, which will be circulated among the Committee during the next month, and considered at a meeting to be held in London, December 21. It is hoped that the Committee will thereupon be able to present this report to the various councils and committees of societies of secondary teachers who have joined in the work.

Professor Ernest Gardner has arranged for a holiday course on Archæology next January, conditional on the receipt of an adequate number of applications. The course will consist of six lectures by Professor Percy Gardner on Greek coins in relation to history, six lectures by Professor Ernest Gardner on recent excavations in Greece and their results, and one lecture by Mr. Arthur Evans on the European relations of early Ægean civilization. These lectures are to be supplemented by discussions and visits to the British Museum.

Mr. J. S. Thornton has reprinted (by permission of H.M. Stationery Office) the paper on Danish Schools contributed by him to the "Special Reports on Educational Subjects, 1896-97." Copies of the reprint may be obtained from the Secretary of the College of Preceptors, either on personal application or by forwarding a penny stamp for postage.

GIFT-BOOKS AND PRIZES.

II.

Conspicuous amongst the books of the month, at all events for the care which has been bestowed on its writing, printing, and binding, and for its finely engraved frontispiece, is *The Story of the Red Deer*, by the Hon. J. W. Fortescue (Macmillan). After delivering himself of an old-fashioned epistle dedicatory, Mr. Fortescue tells his tale in an easy, racy, Devonshire style, simple and suitable to his subject. He has read his Kingsley, no doubt, but he is on his own account a genial narrator, and this story, so redolent of country life and thought, will give pleasure to all its readers.

Master Skylark, a Story of Shakspere's Time, by John Bennett (Macmillan), is a decidedly well told sixteenth-century story. The period has been studied and assimilated, but it nowhere creeps from the framework on to the canvas itself, and the canvas presents a well-conceived picture of interesting fiction. This is certainly one of the welcome books of the season. We will only add that it introduces us to Will and Ben and the rest of the Queen's players.

Two Old Ladies, Two Foolish Fairies, and a Tom Cat: the Surprising Adventures of Tuppy and Tue, is the elaborate title of a fanciful tale by Maggie Browne (Cassell & Co.). It is illustrated by coloured plates and other pictures, and is well suited for a present to little boys and girls. We commend it as being thoroughly amusing, and the pictures are really admirable.

Amongst Messrs. Macmillan's later reprints and new editions are *Newton Forster*, by Captain Marryat, illustrated by E. J. Sullivan, with introduction by David Hannay; *Mansfield Park*, by Jane Austen, illustrated by Hugh Thomson, with introduction by Austin Dobson; *Walks, Talks, Travels, and Exploits of Two Schoolboys*, by the Rev. J. C. Atkinson; *Playhours and Half Holidays, or Further Experiences of Two Schoolboys*, by the same; *The Little Duke*, by the Author of "The Heir of Redclyffe"; and *Tales of Old Travel*, by Henry Kingsley.

The Swiss Family Robinson: an Account of the Adventures of a Swiss Pastor and his Family on an Uninhabited Island, "translated from the best original editions" (why more than one?), by H. Frith (Ward, Lock, & Co.), is an old friend in a new dress, with coloured pictures and more than two hundred illustrations. It is, of course, a fund of good reading. The worthy pastor appears to have found an epitome of the universe on his island, and to have told his family all that there is to be said about it.

One of the most stirring books of adventure and biography which have come into our hands this year is *Men who have Made the Empire*, by George Griffith (Pearson, Limited). It is a good-sized presentable book, very well printed, and illustrated by sixteen pictures by Mr. Stanley L. Wood. "The Men" are William the Norman, Edward III., Drake, Cromwell, William III., Cook, Clive, Hastings, Nelson, Wellington, Gordon, and Mr. Cecil Rhodes. No doubt Mr. Griffith felt himself bound to honour a living Englishman.

Mr. Henty's contribution for the year includes three six-shilling stories—*With Frederick the Great: a Story of the Seven Years' War* (Blackie & Son), good sketchy history and moving adventure, with twelve pictures, plans of the battles, and a map; *With Moore at Corunna*, similarly illustrated, but without a map or plans (Blackie & Son); and *A March on London: a Tale of Wat Tyler's Rising* (same publishers). The last is a very fair, well realized, sufficiently accurate picture of the England of five centuries ago. *With Crockett and Bowie; or Fighting for the Lone-Star Flag*, is a tale of Texas by Mr. Kirk Munroe (Blackie & Son). It has eight illustrations, and gives a readable account of the secession of Texas from Mexico. *Paris at Bay: a Story the Siege and the Commune*, by Herbert Hayens (Blackie & Son), uniform with the last story, is a re-handling of an oft-told tale.

The Golden Galleon, by Robert Leighton (Blackie & Son), is described as "a narrative of the adventures of Master Gilbert Oglander, and of how, in the year 1591, he fought under the gallant Sir Richard Granville in the great sea fight off Flores, on board Her Majesty's ship the 'Revenge.'" It is an ambitious choice of subject, but the story is a thoroughly good one. Like all Messrs. Blackie's historical tales, it is freely and well illustrated.

Messrs. Blackie & Son also provide three excellent illustrated stories for girls. *A Daughter of Erin*, by Violet Finny, author of "The Revolt of the Young MacCormacks," is full of nerve and spirit, with a fair plot, and by no means childish in its aims. *Nell's Schooldays*, by H. F. Gethen, is the pathetic story of a girl who has lost her mother, and clings to her father with all the greater persistence. There is not much of the "school" about it. *The Luck of the Eardleys*, by Sheila E. Braine, is a pretty story of to-day, by no means commonplace.

Lords of the World: a Story of the Fall of Carthage and Corinth, by the Rev. Alfred J. Church (Blackie & Son), couples together two events in the history of Republican Rome which will be more or less familiar to many who read this book. Mr. Church, like Mr. Gilkes in his story of "Hannibal," groups his incidents round the person of a fictitious young Greek. He has well performed his work, and his story is very interesting. *King Olaf's Kinsman: a Story of the last Saxon Struggle against the Danes*, by C. W. Whistler (Blackie & Son), is well conceived, and eminently readable. Another old English tale is *A Stout English Bowman: being a Story of Chivalry in the Days of Henry III.*, by Edgar Pickering, for which we can predict a hearty welcome from the boys into whose hands it may fall. Coming to modern times, we have, again from Messrs. Blackie & Son, *The Naval Cadet*, by Dr. Gordon Stables, full of dash and incident.

Messrs. Nelson & Sons' story books for 1897 include *Soldiers of the Legion: a Tale of the Carlist War*, by Herbert Hayens, which recalls many stirring scenes from a memorable crisis in Spanish history; and *The Island of Gold*, by Dr. Gordon Stables, a new fantasy on the old strings of seafaring adventure, lonely islands, and buried treasure.

A very good historical tale is Miss Everett-Green's *A Clerk of Oxford, and his Adventures in the Barons' War* (same publishers). It is a portly five-shilling book, with frontispiece and an old map of Oxford, and the figment of the story is pleasant and interesting. An alternative story by the same author, and from the same publishers, at 3s. 6d., is *Tom Tufton's Travels*. It is a talo of the curing of a scapegrace in the days of the Duke of Marlborough, not very well constructed, and ending abruptly with the promise of a sequel, but still readable. Two-shilling stories published by Messrs. Nelson are *Soldiers of the Queen, or Jack Fenleigh's Luck*, by Harold Avery, based on the dash to Khartoum, and *Vandrad the Viking, or the Feud and the Spell*, by J. Storer Clouston. The same publishers send us *Little Tora, the Swedish Schoolmistress*, by Mrs. Woods Baker, and *Wee Doggie*, by Elizabeth C. Traice, both very pleasant and cheerful books.

Exiled from School, or For the Sake of a Chum, by Andrew Home (A. & C. Black), is a whimsical, not to say farcical, story of schoolboys who took their fates in their own hands, and introduced moro of melodrama into their lives than was good for them at their age. It is certainly amusing, though somewhat strong meat for young boys.

For Prince and People: a Tale of Old Genoa, by E. K. Sanders (Macmillan), is a good historical story of three hundred years ago. It will please a thoughtful boy or girl, as well as many who are no longer boys or girls.

Breaking the Record, by M. Douglas (Nelson & Sons), is a story of various North Polar expeditions by the Nova Zembla and Spitzbergen route, full of information and of exciting adventures amid snow and ice, with plenty of pictures. *The Young Emigrants*, by C. L. Johnstone (same publishers), is a story for boys, sensible and straightforward, and calculated to put fresh courage into the breast of a lad who has to seek a new home in a distant land. *For the Queen's Sake*, by Miss Everett-Green (same publishers), with six illustrations, tells the story of little Sir Caspar and his girl friends. *The Green Men of Norwell, and Other Stories*, by Mary C. Rowsell (Simpkin, Marshall, and Co.), is a small volume of half-a-dozen simple tales reprinted from *Young England*. They are well-told narratives, in a slight historical setting.

Crown Jewels (Elliot Stock) is a brief record of the wives of English sovereigns, from 1066 to 1897, with a preface by Lady Herbert of Lea. What Queen Elizabeth does amongst the "wives" we cannot say. The few pages devoted to her are not very sympathetic, though we are told that the book is intended "to deal reverently and sympathetically with these Royal dead." The compiler is much indebted to Agnes Strickland, and no doubt the volume will find many appreciative readers.

In the Days of the Pioneers, by Edward S. Ellis (Cassell), is a sequel to "The Phantom of the River." It is an American story, and has some wild Indian adventure mixed up with more domestic interests. It is briskly told.

Frank Allreddy's Fortune, or Life on the Indus, by Franklin Fox (Ward, Lock, & Co.), is a story of a boy's escape from shipwreck, his perils, and his adventures in India. It is varied in scene, instructive, and as lively as long conversations will allow it to be.

The National Society's new list of gift-books is long and varied. It includes a story by Miss Charlotte Young, *Founded on Paper, or Uphill and Downhill between the Two Jubilees*—a simple tale of English manners and character; *One Red Rose*, by Mary H. Debenham—a delightful and well-told story; *The Knights of Rose Mullion*, by Esmè Stuart—bright and brisk, as all Miss Stuart's stories are, though not the best she has written; *Told by Two*, by M. Bramston; *The Tuckers' Turkey*, by Katherine E. Vernham; *Plain Jeremiah*, by Audrey Curtis—a jocund, attractive, characteristic story; *The King's Ring*, by Maud N. Hodgson; *The Two Ellens*, by A. E. Deane; and *Miss Barton's Bicycle*, by Penelope Leslie. These are all simple suitable tales, varying in price from three shillings and sixpence down to one shilling.

Gleanings from Popular Authors, Grave and Gay (Cassell & Co.), consists of 376 large pages of selections from a great number of authors, profusely illustrated, and very varied in subject and quality. There is reading for many quiet afternoons and evenings in this cheap and portly volume.

In addition to the annual volumes noticed last month, we have received *Cassell's Saturday Journal*, October, 1896, to September, 1897 (Cassell & Co.). This volume includes a vast amount of "useful and entertaining literature," or, at any rate, of light and useful reading. There are many stories, general articles, fragments of information on a great variety of subjects, interviews with public men, exposures of frauds, poetry, puzzles, three serial stories, and miscellaneous gossip and jokes. It is all reading without effort, and to the boys or young men whom it happens to suit we can imagine that this magazine is very welcome. For light-hearted and unfastidious readers, the contents are harmless enough.

Work (Cassell) is the half-yearly volumo of a journal especially designed for mechanics, and we have attested its merits on various occasions.

The Boys' and Girls' Companion (Sunday School Institute) is an illustrated magazine for boys and girls, young and fresh, with a pretty coloured frontispiece. *The Church Worker* (same publishers) is the annual volume of the Institute's magazine for Sunday school teachers, with plenty of good reading in it.

Dorothy Darling (Hodder & Stoughton) is a little quarto illustrated story, with shining pages and coloured back, intended for girls who are just able to read. It is written by Minnie E. Paull, and illustrated with thirteen full-page pictures of the heroine.

Off to Dolly Land (Jarrold & Sons) is a smaller quarto, all pictures and no print, with outlines prepared for painting. From the same publishers we have *From Me to You*, a collection of Christmas and birthday cards and texts, painted and outlined for copying, and perforated for distribution.

Jumbles, by Lewis Baumer (Pearson, Limited), is a set of laughable pictures and nonsense verses, which will amuse plenty of little readers this Christmas. So will *A Book of Surprises* (same publishers), in which the pictures are provided with flaps, intended to be raised with a nimble hand whilst the juvenile reader has his attention fixed on the page. Both are highly coloured.

NEW BOOKS AND NEW EDITIONS.

A Book that should be in every British home and school.

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EVENING MEETING, NOVEMBER 17, 1897.

The Chair having being taken by the Rev. Dr. Hiron, Mr. H. Courthope Bowen, M.A., read a paper on

ENGLISH AS THE BEGINNING OF THE TEACHING OF LANGUAGE, WITH SOME REFERENCE TO LATIN.

Let me begin by making clear what it is that I propose to deal with this evening. I do not propose to consider how Latin may be taught by means of English—as Dr. Abbott did in his address to the Teachers' Guild in 1888—nor do I intend to argue the question as to when Latin should be commenced. My wish is to try whether we cannot amongst us decide as to what points in the teaching of English should receive most attention, and how they should be dealt with, in order to render the beginning of another language—an inflected language such as Latin, for instance—somewhat less dark and difficult than it usually is. That linguistics strictly so called is not a subject likely to interest or to profit little children I think we shall all agree. "Boys find no sap nor sweetness in it," as Charles Hoole said, because it is unsuited to their "waterish wits." But most of us, it seems to me, have by this time come to the conclusion that in dealing with all our subjects at school we should at least begin informally, remain informal for a while, and only gradually rise into strict formality—following in this the manner in which human knowledge has grown in every department. Before beginning strictly to study a new language we need a preparatory informal stage. It is the lack of this that makes the first entry into Latin so difficult and uninteresting. The boy has not yet acquired any *general notion* of language and its ways; the whole thing seems strange, arbitrary, artificial—if, indeed, it be at all intelligible to him.

Now, language being an attempt by human beings to make themselves intelligible to one another, and human nature being so much the same everywhere, we should expect to find—as we do find—that all languages resemble one another in their modes and habits—sometimes more, sometimes less, but all in a certain measure. In other words, there are such things as *general laws of language*, not only for particular groups of related languages, but also for all languages whatsoever. Of course, to gain a real, personal, and strictly formal knowledge of these general laws—or, let me say, general modes and habits—of language, the learner would have to study several particular languages, which a very young learner cannot do effectively and should not be encouraged to attempt at all. But what I want to point out is that in directing the study of any particular language there are always certain matters on which we have to lay special stress and make as clear as we can. Amongst these will naturally be the characteristics peculiar to the language in question; but there should also be amongst them characteristics which it shares in common with language in general; and these should have special attention and be made specially clear. So that, in the case I have been referring to, a boy would pass from English to Latin not only with a knowledge of what is peculiarly English, but also with some knowledge, informal no doubt, of the general modes and habits of language—the functions of the parts of speech, the nature of a sentence, the use of inflexions and auxiliaries, &c., &c. That the ordinary boy does not bring this informal general knowledge with him in any noticeable quantity is a fact familiar to us all. And the reason for this is partly that we are in such a desperate hurry to get him into Latin or French, and partly that we teach English—and Latin too, for the matter of that—so mechanically and unintelligently. I do not make this assertion about our English teaching at random. Every

year I have to examine in this subject some hundreds of candidates who have either just left school or are just about to leave. Or, if you wish to verify the assertion for yourselves, you have but to glance into any one of the myriad English grammars that cast their baleful twilight over the junior forms of our schools. The writers themselves do not understand the general modes and habits of language; and when they try to deal with them they do but darken the air with the dust of old formulas and fallacies which they raise. You will find words and things constantly confused, talks about the *gender* of English nouns, calculated to cloud a boy's mind on the meaning of gender for the rest of his natural life, phrases called "prepositional" because they happen to *begin* with a preposition, that which is really a *limitation* almost always called an *extension*, and so on, and so on. But enough of this for the present, or you will think that I consider grammatical details all-important at the very beginning of a language—which is not the case.

The Earlier Study.

It seems to me that, from the very start, we confuse our pupils by failing to bring home to them that language is the means employed by human beings to make themselves intelligible to one another; and that the habits and ways of language spring directly or indirectly from that fact. (This would have to be slightly modified later on, when we deal with purely artistic literature; but here I am only dealing with beginnings). To accomplish this, in my opinion, we should deal with simple thoughts and feelings, and the manner in which a knowledge of these can be conveyed from one to another—with simple literature, in short. We may take some simple thought, with its attendant feelings, and, having talked them over sufficiently, we may try to put them into words, and then turn to a master of good English and see how he expresses them; or we may start with the author's words and arrive inductively at the thought and feelings which he intended to convey. The uses and values of metaphors, similes, epithets, order of words, &c., will be considered, though in a quite rudimentary and untechnical way—but always from the point of view that they are means for the expression of thought and feeling. But all this, and much else of a like kind, belongs to the rudimentary stages of literature teaching, which I have treated fully elsewhere.* No doubt grammar will slowly and naturally emerge from work of this sort—at first very informal, then gradually formalized—but, in the initial stage, not a word of it. What we are striving for is to help our pupils to gain some knowledge of the nature of language, not for grammar—grammar of itself will come uncalled for—(it often does, though in another sense, in our editions of English classics). It will come naturally and intelligibly when it is wanted, and need not be lugged in by the ears.

Well, let us suppose that our small boys have studied some very simple literature in the manner I have described—observing and unweaving the language of others to get at the thoughts, and using language themselves to express their own thoughts—and that in this way they have gained some acquaintance with language as a means of expressing thought. Then, *keeping this view always before us*, we may pass on to study the mechanism of language more in detail. We shall know that to make a sentence or statement is to express a thought so that it may be intelligible. Whether it is a *complete* thought they do not know—nor, to tell you the truth, do I. But we shall have some acquaintance with the *complete statement* or expression of a thought. This we shall call a "sentence," and this we shall proceed to examine. It will not take us long to see that it consists of two parts: that which tells us what we are speaking about, and that which consists of what we say about it. But, placing this fact aside for the moment, let us examine the sentence word by word so as to find out the precise value of each word in the expression of the thought. We can best do this by comparing the sentence as it stands with the same sentence when the word is left out, and then with the sentence when for the word in question other words are substituted which make sense. In this way we shall learn the function of each word—what it does for us—in the particular statement; and we shall group together the words which do the same kind of thing. (I do not want to bore you with details; but I must give some details, otherwise I shall not be understood.) After doing a good deal of work of this kind, our next step is to group together the functions which closely resemble each other. The functions of telling us *which things*, *what kind of things*, and *how many things* we are speaking about will go in one group; those of *naming* in another; those of *asserting what a thing does*, or *in what state it exists*, in a third; and so on. We shall, in this way, get eight groups, and these we shall name in the usual way, *adjective*, *noun*, *verb*, &c. Then the boys will have to use language to express their own thoughts; for they must *make* a definition for each group, not swallow a ready-made one. This I consider a matter of very great importance in the kind of study I am advocating. The sorting of the functions into groups, the testing of the groups, and the framing of the definitions can all be made very interesting and of decided educational value. Of course the definitions will be immediately tested by application to fresh instances, and will not be perfect at first, but be slowly perfected by experience.

The Danger of Definitions.

If we are to judge by the ordinary grammar text-books, it is only at this point that we enter on the domain of grammar, for they invariably begin with ready-made definitions. I do not particularly care where the frontiers are marked. My aim is to give my boys an acquaintance with the modes and habits of language in their more general aspects; and I hold that, whether you call it grammar or not, the plan I am advocating will effect what I want. It is true that there is grave danger that boys who study language in this way may come to look upon grammar as a science, which states the facts of language, and not an art—the art of speaking and writing correctly. But this would not distress me much.

A word or two about definitions before we pass on. To provide our boys with ready-made definitions not only deprives them of much valuable exercise, but also is very likely indeed to give them false ideas of the nature of language. They are apt to look upon language as the invention of some primeval person or persons, springing full-grown from their brains as Athena did from the brain of Zeus, and provided with a complete set of laws and regulations as binding and unalterable as the laws of the Medes and Persians—instead of a slow natural growth, as slow and as natural as other human growths. When, as a proof of the rightness of the definition, the derivation is added, confusion becomes worse confounded. The derivation can only tell us what idea the original makers or adopters of the name had in their minds; and that idea may have been right or may have been wrong, or, like most things human, partly the one and partly the other. Words have not fixed innate meanings of their own; they mean just what those who use them agree from time to time that they shall mean—and that may in the long run have little or nothing to do with the original meaning. The growth and change in the meaning of words is familiar to us all; and its history, which the great "Oxford Dictionary" is making possible for us in English, is valuable and extremely interesting—more interesting to my mind than the history of the growth and change of form. Educationally also it is of great value; but it does not belong to the stage we are discussing; and the ill-timed dragging in of derivations will hinder and not help the study of it. There is, moreover, another drawback to the giving of ready-made definitions; errors and mis-statements creep into them and are handed down unchanged from generation to generation; which would not be the case were the work leading up to definition constantly redone. I suppose we may hope that before very long we shall not find, even in Latin grammars, adjectives defined as "qualifying nouns"—a dark saying at best, even if we substitute "things" for "nouns." Perhaps with it there may vanish the idea that verbs are of two classes, those which tell us "what a thing does"; and, secondly (to use their own vile phrase), "what a thing is done to." The text-books, it is true, do not often themselves adopt this classification, but somehow (I speak as an examiner) they allow the idea to get into the learners' minds—some of whom gaily add the startling information that the latter class is called "intransitive." But there is one definition which age cannot wither nor can custom stale. I mean that which tells us that "a pronoun is a word which stands instead of a noun." Those who are learned in such matters inform us, as I understand, that pronoun-roots are as old as, or older than, noun-roots in language; that there never was a period in language destitute of pronouns, or, in other words, that it was often found sufficient at first to indicate by reference or gesture what one was speaking about instead of giving it a name—in short, the pronoun was not invented to relieve the over-worked noun. However this may be,

* "English Literature Teaching in Schools." (1s. 6d. Kegan Paul, Trench, Trübner, & Co.) As to how somewhat similar work may be continued in the teaching of Latin later on, I would refer you to an excellent little pamphlet by Professor W. J. Hale, on "The Art of Reading Latin," published ten years ago by Ginn & Co., of Boston.

the definition is evidently thoroughly unsatisfactory, for it leaves out most of what it should include, and fails to mark a distinct difference. Many other parts of speech can stand instead of nouns properly so called. In a limited sense the definition is true. You can, without any other change in or addition to a sentence, substitute a noun for a pronoun—sometimes when the latter is a demonstrative, and always when it is a personal pronoun of the third person (which historically in English is a demonstrative). But you cannot do this in the case of personal pronouns of the first and second persons, or in that of a relative, interrogative, or indefinite pronoun. If you discard pronouns altogether and use nouns only, you must express your thought in a different manner, if indeed you can express it at all.

Pronouns are much harder worked than nouns, and are so few and so constantly in evidence that they have retained far more of their peculiarities of form than nouns have. The distinguishing characteristic of a pronoun is that, instead of *naming*, as a noun does, it *indicates by means of reference* what we are speaking about—a very useful plan, for by leaving the reference vague we get our indefinites, by asking for it we get our interrogatives, and by using it as a link we get our relatives. I might, no doubt, go on to pick holes in other commonly accepted definitions especially in Latin grammars); but I think I have said enough to show you the unwisdom of giving ready-made definitions and omitting the preliminary work which I have described.

Word-Groups.

To return to the thread of my argument. In the word-by-word examination of our sentences we shall sometimes have found a little difficulty in considering the words singly. Some have seemed to stick to one another and form little groups by themselves; so that it would be easier to deal with the group as one whole. Often we shall have found that we could replace the group by a single word; and very soon we shall see that these troublesome confederates are always by nature equivalent to single words, though the English language may not contain the exactly equivalent word. These groups we call "phrases." Now since *phrases* are equivalent to single words, the offices they perform in a sentence must be the same as those of the parts of speech. Accordingly we name them *noun-phrases, verb-phrases*, &c., &c. For instance, in "On a sudden he turned and fled," the words *on a sudden* (= suddenly) tell us *in what manner* he turned and fled; and they therefore form an *adverb-phrase*—not a *prepositional phrase*, as the grammar-books commonly tell you. Moreover, in defining "a phrase" we shall not say that it is "a group of words which contains neither a subject nor a finite verb," as the text-books often do, for that tells us nothing, and, besides, is certainly untrue of *verb-phrases*. We shall content ourselves with saying that "in a sentence a *phrase* is a group of words equivalent to a single word." Our exercises will consist in the turning of the phrases of sentences into single words, and the single words of sentences into phrases. We shall not deal with either parts of speech or phrases except as they occur in an actual sentence before us, at this stage of our work; as otherwise we should be apt to talk nonsense (neither word nor phrase is any part of speech apart from its sentence), and we should be divorcing ourselves from the ruling idea throughout that language is the means for expressing thought, and must so be dealt with.

I might here go into detail and show you how in work of this kind we are preparing the boys for the consideration of *auxiliaries* and *inflexions;* inasmuch as when we use auxiliaries we distribute what we wish to express among several words, and when we use inflexions we pack it into one word. But I must take it for granted that you see this. I shall touch on the point again. The only phrases likely to trouble us much are verb-phrases; and most of these had better be left till the time comes for considering the verb by itself.

Ordination.

Continuing the examination of our sentence or statement, we shall find not only that words go together to form a phrase, but also that at times they go together to form a statement which is itself but a section or clause of the whole statement of the complete sentence. Sometimes these clauses are on a footing of equality; sometimes one is intimately connected with another and as a whole performs the function of a noun, or an adjective, or an adverb in the complete sentence. So we get noun-clauses, adjective-clauses, and adverb-clauses. But I need not go into details. A few words of advice will be enough. I should not—at any rate at first—attempt anything more elaborate than dividing the sentence into its principal and subordinate clauses; and deciding with regard to the former whether they are co-ordinate, and with regard to the latter whether they act as noun, adjective, or adverb in respect to the principal clause or some word in that clause. I should not trouble myself or the boys with "adversatives" and "illatives" and the rest of it.

Having got my clauses, I would divide each into subject and predicate, and then each of these into its component parts, keeping phrases as phrases. I certainly would not use the frame-work form of analysis. Like the little girl who pitied the poor lion who hadn't got a Christian, children in their sweet pity are given to putting words into squares that look lonely; or, like little Jean Ingelow, who moved the stones because they must be so tired of always lying in the same place, they will put words and phrases into new places just to relieve the monotony. I would not allow them to call the noun only the subject, nor the verb only the predicate, nor would I allow descriptive and defining words added to a noun to be called "enlargements"—at least, not unless I wanted to teach them to use language for the purpose of misleading their fellows, though that might help to qualify them for the post of demagogue. When necessary, I have been in the habit of trying to clear up the matter in this way: Let us say something about something—about what? "Dogs." Very well. "Dogs came into the garden." But what dogs? "John's dogs." But which of them? "John's white dogs." But he has many, big and little. "John's big white dogs." Yes, but how many? "John's two big white dogs came into the garden." We manifestly do not add these words to enlarge the scope of our subject, but, on the contrary, to narrow it so that we may know definitely what we are speaking about. And what we are speaking about is not "dogs," but "John's two big white dogs."* It is better to call the adjectives "descriptives" than "enlargements." The predicate may be treated in precisely the same way. What we have just said of our subject is not "came," but "came into the garden."

Let us pause here and recall to mind that we are working with a due sense—a due, not undue, sense—that at about ten or eleven our boys will begin another language—Latin, for instance. Besides giving them, or while giving them, an acquaintance with the *general* habits and modes of language, are there other matters to which we should call their special attention? What are the special difficulties of a boy beginning a new language? They concern vocabulary, inflexions, and the construction of sentences or syntax. I very much doubt whether we can profitably do much in preparing boys for Latin vocabulary by means of English words, as Dr. Abbott proposed in the address I have mentioned. Besides, I have other views as to how to commence a new language, and these are much more in accord with the plan of that capital little book "Gradatim"—which, by the way, assumes that much of the work I have been advocating has previously been done. But, as to inflexions and syntax, can we do anything? As to the latter, we can, I think, give only *general* ideas as to what syntax is by means of English syntax. But these general ideas should be given; and we should be careful not to omit to deal in *some* measure with *the order of words* in an English sentence—at least to the extent of showing that the order has some meaning or intention in it, and is not the result of mere chance, and this had better be done inductively and by experiment. Manifestly, until they have some idea of the value of *order* in English, they will have little power to appreciate it in Latin. As to the former, I think we can, by means of English, give our boys a fair acquaintance with the nature and intention of inflexions. For instance, we can show that case (in pronouns) may mark the relation of subject or object in a sentence, or mark whether the noun or pronoun stands in an adjectival or adverbial relation. We can show that adjectives and adverbs are inflected for comparison, verbs for person, tense, &c., and so on. There is much more to be done than many people imagine; and my plea is that it should be done simply and intelligently, and always in clear view of the idea that language is a means of human expression, and not merely an instrument of torture.

The Treatment of Inflexion.

My next stage in the teaching of English, then, would be—both for the requirements of English itself, and also for the

* When, later on, we come to consider the *order of words*, we shall have to note that these adjectives cannot be put in *any* order; that English does not give us very much choice in the matter; and that every new order slightly changes the statement, a word out of its usual place becoming emphatic.

future requirements of Latin or French—the treatment of inflexions. But what is there new in this? some one may remark. We all deal with inflexions. Yes, but the question before us is not the *fact* of treatment but the *method* of treatment. If they are dealt with dogmatically and dictatorially—as usually happens—then my boys will not gain the help I want them to gain. My plea is that we should treat the inflexions *inductively;* that we should closely observe words with their various inflexions in actual sentences, and so learn the general functions of inflexion in the expression of thought. Having got our general idea, we may then pass on to consider the parts of speech one by one, and so learn more about the particular uses of inflexions in particular cases.* We shall not cover anything like the ground in English which we shall have to cover later on in Latin; but we shall make a beginning, and that an intelligent one. When speaking of turning phrases into single words, and single words into phrases, I stated that the exercises would give us some help when we came to the uses of inflexions and auxiliaries. Here I must give you a caution. In many cases you cannot substitute auxiliaries for inflexions and *vice versa*—not, at least, without somewhat changing the meaning, or using an un-English form of expression. For instance, English people do not say "the cat of the cousin of my aunt," as the writers of French exercise-books seem to imagine, but "my aunt's cousin's cat"; nor do we usually say "the building's top" but "the top of the building"—the common practice being to reserve the inflexion for the names of things having life or which are personified. But a little care will enable you to avoid all serious difficulties—especially if you are careful to point out that a form of expression may be possible and intelligible, and yet not be the accepted one. And just one other caution. Do not invent things which do not exist in English simply because they do exist in Latin or French. Do not speak of adjectives agreeing with nouns, or of nouns in the objective or accusative case. The objective relation of a noun is not marked by an inflexion in English, but by the position of the word and the general sense of the statement. Even in Latin as often as not the accusative has no distinguishing mark of inflexion.†

This, then, is the method of dealing with the earliest stages of the study of English which I ask you to consider. And I ask this not merely for the sake of Latin and French, but mainly for the sake of the more advanced study of English itself; and I would remind you that I am supposing the method indicated to be accompanied by a carefully graduated and liberal study of simple English literature *as literature*, that is, as the refined and skilled expression of thought and feeling. The method I have suggested does not clash with this; on the contrary, it supplements and supports the study of literature in a way in which mere codified grammar learnt by heart never can. And let me add that to a large extent I would continue the same inductive method for the first steps of Latin or French. There is one grave reason for considering this matter of the teaching of English which I would not have you ignore. In the coming organization of secondary education there will certainly be some severe battles over the curricula of our schools, and any subject which cannot justify itself as distinctly educative is likely to fare badly. There are many signs of special danger in the case of English. Badly as it has always fared, it may fare worse or be entirely excluded if it cannot justify its place. And I for one would lift no voice in favour of English grammar taught in the ordinary dogmatic way. Even while writing this I have received a pamphlet which is being circulated in Manchester and elsewhere, urging, amongst other things, the exclusion of English grammar from elementary schools as bewildering, wearisome, and unprofitable. There is but one answer to the plea, and that is: Let the subject be taught differently, so that it may be truly educative, or let it go. In any case we may have to let it go in order to secure a place for a true study of English literature. But before deciding let us once more think over the matter. Let us cease to call grammar the art of speaking and writing correctly, and to appear to claim that by setting boys and girls to learn up a grammar-book we shall teach them to speak and write good English. This last comes not by grammar, but by the study of good literature, and by association with those who themselves speak good English. When, to use Hoole's expression, our boys have got "some footing in the language," then formal grammar will help them to summarize, arrange, and codify that with which they are already informally acquainted. Till then it is liable to be but little better than a cause of bewilderment and sorrow.

* The whole matter is more fully treated in a lecture I delivered before the College in June, 1885, and in a little shilling book called "English Grammar for Beginners," published by Kegan Paul & Co.

† Perhaps next year I may speak to you more fully on the best way, or one of the best ways, of beginning Latin.

The Chairman said that there was much difference of opinion with regard to the age at which the teaching of Latin should begin. Dr. Kennedy used to advocate the beginning of Latin at six years of age. He himself doubted the advisability of commencing so early, although it was true that a student who had learned thoroughly when young some of the grammar by rote would have an advantage when he entered on the systematic study of the language. In practice he had found that the best plan was to let the children do without learning anything by rote except the simplest inflexions, and to arrange the lessons so that the pupils should gradually acquire such a knowledge of the structure of the language that the learning of grammatical rules, both of accidence and of syntax, became simply a formulating of facts that they had already mastered. He would recommend teachers when teaching Latin to beginners to re-arrange the words of each sentence in the order in which they should come for translation. He knew by experience that this method was very successful in enabling students to overcome the difficulties of translation at sight. Much of the difficulty of mastering inflexions might be obviated by using carefully prepared tables, more particularly with regard to the conjugations of verbs. He hoped that in the battle over the curriculum, which was inevitable when secondary education came to be organized, English would hold its place and not be driven out by rival subjects.

Mr. Hudson said that language must be taught both as a science and as an art, and, just as in the teaching of science it was necessary to connect the various facts by generalizations, so a certain number of definitions were necessary to the progress of pupils in the study of languages.

Miss Lewis considered that it was a great advantage to pupils to learn things by heart, as the knowledge of facts thus acquired, even if the facts themselves were not digested at the time, was available for use at a later period. Teachers had to prepare for public examinations, and for these a great deal of memory work was necessary. In preparing boys for public schools, again, if they were not taught something by heart, they would be at a disadvantage when they entered the schools. She had found it useful to teach the elements of two languages at the same time. English grammar and Latin grammar, for example, could be profitably taught together.

Mr. Bowen having replied to the remarks of the various speakers, a vote of thanks to the Lecturer concluded the proceedings.

COLLEGE OF PRECEPTORS.

DISTRIBUTION OF DIPLOMAS, PRIZES, AND CERTIFICATES.

The Public Distribution of Diplomas, Prizes, and Certificates awarded to the successful candidates at the Midsummer Examinations, 1897, was held at the College, Bloomsbury Square, on Saturday, November 6. The Chair was occupied by the Rev. Canon Evan Daniel, M.A., who was supported on the platform by Mr. H. W. Eve, Dean of the College; Dr. R. Wormell, Vice-President; Mr. Atkinson, Rev. J. O. Bevan, Dr. Bell, Rev. F. Besant, Mr. G. Brown, Professor Buchheim, Mr. Butler, Mr. Langler, Professor Seeley, Mr. Armitage Smith, Rev. R. O. T. Thorpe, Mr. Wilson, and others.

The Chairman, in opening the proceedings, said: Before proceeding to distribute the prizes, certificates, and diplomas, I propose, in accordance with precedent, to say a few words with regard to one or two questions of current educational interest. The College of Preceptors is at once an examining body and a teaching body. It examines both pupils and teachers, and it would be very difficult to determine which of these two departments of education is the more important. I know that there are people who think that we are over-examined, and I have heard people speak very contemptuously of the value of examinations. I have heard them say, for instance, that it is foolish to take up a plant by the root to see how it is growing. I think you will agree with me that important educational questions of that kind are not be settled by a metaphor. Education requires examination. I know that examinations may be abused, that they may be too frequent, they may be too severe, and they may impose upon the pupils needless worry and nervous strain. But I think teachers will agree with me in saying that, if pupils were not examined by other people, it would be necessary for them to examine themselves; that, in fact, it is absolutely necessary to take up the plant of knowledge by the root again and again, in order that it shall grow. I am afraid that all the knowledge

which we so industriously acquire would very soon pass away if it were not constantly revived in consciousness and used in new combinations. An examination is useful as a goal both for teachers and pupils. It gives them something definite to work for; it is a great stimulus to industry, and to healthy emulation between school and school; it detects the weak places in a school, and that, I think, is very valuable for the purpose of guiding both the teachers and the pupils. I also think it is of very great value to parents; it prevents them from living in a fool's paradise with regard to the efficiency of the school where their children are educated.

One word with regard to the magnitude of the work which this College undertakes in this connexion. At the last Midsummer Examination there were 5,859 candidates examined at the 195 local centres and schools where examinations were held, and in the course of the whole year there were as many as 14,378 candidates examined. In addition to the pupils, there were 136 teachers who were examined for diplomas in July.

Now what are the conditions of a good examination? First of all, the area of subjects should not be too great, the questions should not be too difficult, and should be of a varied character; there should be questions, for instance, appealing to memory, and there should be questions appealing to the higher intellectual faculties. In other words, there should be questions based on bookwork, and there should be questions calling for some independent exercise of the intellectual powers. The questions should always be unambiguous; there should be no doubt whatever as to their meaning. There should be a high standard of excellence, there should be justice and accuracy in the appraising of the marks; and last, but not least, there should be rapidity in getting out the results of the examination. These conditions, I think, are fully satisfied by the way in which the examinations of this College are conducted. On one or two of the tests I have mentioned I should like to speak a little more fully. In the first place, with regard to the severity of the examinations, I think I ought to point out that these examinations are not obligatory, and that the subjects in which the pupils are examined are optional. It lies, therefore, with the teachers and parents of the pupils to choose the subjects in which the pupils are examined. With regard to the standard of excellence which the College strives to maintain, you will find, I think, a very fair test of that, which anybody can apply, by simply looking at the number of "plucks." In the First Class there were 56 per cent. of the candidates placed, in the Second Class 57 per cent., and in the Third 68 per cent., giving an average, therefore, for the three classes of 60 per cent. As to the justice and accuracy of the results, I have never heard any question. The schools are unknown to the examiners, and the pupils are unknown. That does not always happen to be the case. I remember hearing a story of Matthew Arnold bearing on this point. He was called upon to assist Canon Warburton in examining the students at one of the women's colleges in teaching. When the examination was over the two examiners compared their results, and Canon Warburton was filled with dismay when he found that his colleague had given full marks to the whole of the candidates. He expostulated, very naturally, and he was met with this reply: "But, you see, the girls were all so nice-looking." With regard to the promptitude with which the results are published, this is a very important matter both to the teachers and the pupils. If a very long interval elapses between the examination and the publication of the results, it is impossible to use the knowledge obtained for the reclassification of the pupils. In this respect I think the College of Preceptors carries off the palm, and compares most favourably both with the Oxford and Cambridge Local Examinations and with the Education Department. Within a month of the examination every head of a school who has sent up pupils is put in possession of the complete results of the examination.

I said that the College undertakes to teach as well as to examine. It does not teach pupils in the ordinary sense of the word, but it does teach teachers. Every month some useful paper on educational subjects is read before the teachers who meet in this room, and a useful discussion follows. I have attended many of these meetings, and I can bear my personal testimony as to their great interest and practical character. Then, again, the College has established a College for the Training of Teachers, and, although it is early days to judge of its success, I feel certain, if we will only wait and work on, there is a great, and, I would venture to say, a glorious, future before that College.

Secondary Education.

I will now pass on to dwell upon two topics of a more general character: one is the value of the education which is at present given in our secondary schools, and the other is the lines of future legislation with regard to secondary education. It may be in your recollection that a few weeks ago Professor Mahaffy, who was presiding on a similar occasion to the present, indulged in some pessimistic remarks on the value of our secondary education. Many persons who read his remarks thought that he spoke depreciatingly of education generally. I did not understand him in that sense at all. What he complained of was that the enormous efforts that have been made to improve education during the last thirty years have not been productive of the good results that might have been anticipated. Well, I am afraid there is too much truth in what the Professor said. We have attempted perhaps too much. We have included in our curriculum too many subjects. We have been too much swayed, I think, by vulgar utilitarian objects. We have laid too little stress upon moral and religious education. What was the principle of the old curriculum which maintained its ground for so many centuries in this country? It was *non multa sed multum*. The value of almost any subject you can teach depends on the extent to which you carry it. Both as mere knowledge and as an instrument for intellectual discipline, it is the higher planes to which the subject is carried that are productive of most good; one or two subjects studied to their highest reaches will do infinitely more good than a vast number of subjects of which the pupils obtain only a mere smattering. What is the principle of the new curriculum? It is a principle which is very old in one sense, but very new in its application in another. One of the ancient sages said: "Teach a child what the man will require." Now that sounds a very plausible principle to go upon, but it is utterly fallacious. There are certain limits imposed upon what we teach which prevent the principle from being carried out. There are the limits of nature, the limits of mental energy, and there are limits of time—the duration of school life. You cannot teach what you like, you can only teach what a child is capable of learning; and you cannot teach in any order. The order is laid down for you by two things: first of all, the interdependence of the various departments of knowledge; and, in the next place, the order in which the human faculties develop. You cannot get behind these inexorable limits, and your curriculum, whatever it may be, must be regulated accordingly. What has been the cause of the great change from one principle to another? I think it is the growing perception of the value of science. We have all of us been thrown into a state of alarm about foreign competition with home trade and home manufactures. We have learnt that science lies at the bottom of all manufacturing processes, and that we cannot keep our place in the manufacturing world unless we teach science more widely and more profoundly. But you cannot teach science successfully unless you have a sound basis of general education to build upon. Then again we have been too much influenced by the clamours of ignorant parents. When I speak of them as ignorant, I am not using the word in an offensive sense at all: they are ignorant because they cannot help it; they are conscious of what they want, in a vague hazy sort of way, but they know nothing of the means by which the ends are to be attained, and, consequently, they sometimes ask for impossible results, and lay undue stress on what they consider to be knowledge of practical value. I heard a head-teacher say the other day that the parent had become so practical in many cases that the only subjects he really cared about were type-writing, book-keeping, and shorthand. I do not wish to depreciate those subjects. They are very valuable and important; but I think you will all agree that they scarcely represent the whole of the humanities, and certainly do not embrace the whole circle of the sciences.

I remember reading some remarks of Haeckel upon the enormous value which the students who came to his classes derived from the higher culture to which they had been subjected. He had students whose education had been exclusively carried on in technical schools; he had other students who had received a more liberal and classical education; but he found this—and I would ask you to consider well the importance of his remarks—he found that the students in science who were capable of the higher work of his classes, those who were readiest to enter on wide generalizations, those whose reasoning faculties and judgment could be most depended on, were the students who had received a wide, liberal, and classical education. What is wanted at the present moment? We want a statesman, in the first place, who is capable of taking a comprehensive view of the

whole field of secondary education. If he took such a survey, what would he find? He would find what has been aptly described as a chaotic jumble of secondary schools, ill-defined and ill-differentiated. He would find these schools, some good, some bad, some better, as the Duke of Devonshire said the other day, than any schools in Europe, and some worse perhaps. He would find too often buildings that were unsuitable, insanitary, ill-provided with educational apparatus. He would find in too many cases teachers who were untrained. He would find that the parents of the pupils were left without any guarantees whatever of the efficiency of the school. If he looked to the machinery of the State, he would find overlapping Departments doing precisely the same work, and doing it very badly. He would find not one of those Departments taking cognizance of the work of education as a whole, but merely dealing with fragments of it, and regardless of other departments of education. He would find machinery set to work in various ways—Technical Instruction Committees, County Council Committees, without any direction whatever from any central authority, left to blunder in the dark, and squandering public money without any adequate results. He would find a Science and Art Department which, until quite recently, considered it was discharging its duties by merely paying over a Departmental counter for what it was pleased to call results. Obviously, the first conclusion your statesman would come to would be that the whole system needed organization and simplification.

Legislation.

Now what do we want in the way of legislation? First of all, I think we must have a central authority, to include the present Education Department, with the Science and Art Department, and to absorb the educational powers of the Charity Commission. What should be the function of the central authority? We want it to stimulate and direct local action, to secure reasonable uniformity of administration, to revise schemes of education propounded by the lower authorities, to register schools and teachers, to inspect schools, to delimit elementary education from secondary education, to differentiate schools, and, finally, to be a court of appeal. What do we want in the way of local authorities? We must have bodies that will provide schools where they are needed, and only where they are needed.

I trust that whatever is done will only be in the direction of supplementing existing efficient schools, and I trust nothing will be done to supplant them. It would be a cruel abuse of public money if it were employed for the purpose of destroying the many good schools we have already. The local authorities ought to provide scholarships and exhibitions; they ought to frame schemes of education suitable to the locality; they ought to certify as to the sanitation of schools, and they ought to submit their schemes to a higher authority for approval. These local bodies should, I think, be constituted on the lines of our County Councils and our County Borough Councils; but, whatever form they take, they ought to be supplemented by educational experts. I do not believe in what are called practical men or business men having the sole management of education. I am not without a proper appreciation of the capabilities of men of affairs, but a man may be a very clever business man and yet know little of education. It would be an evil day when the management of our secondary schools passed under the exclusive control of men who had never paid any particular attention to educational matters. Your practical man, as a rule, is the very worst sort of doctrinaire. He prides himself on being practical, but, as a matter of fact, he is a theorist, and his theory is very narrow and superficial. He is inevitably ignorant of the best means for the attainment of educational ends. He knows nothing at all about the interdependence of knowledge, nor does he know anything of educational experience either at home or in foreign countries. We have all been educated, but it does not by any means follow, because we have all been educated, that we are authorities on the matter of education. We want registration of schools and teachers both in the interest of education and in the interest of parents. We want guarantees of the efficiency of the teachers and of the suitability of the school buildings. Here I would point out two anomalies which strike me as extraordinary. The first is that we should require such guarantees in elementary education, where the school-building must be perfect, the staff must be properly qualified, the teachers must all be certified by some authority. But, in secondary education, we have nothing of the kind. Any one may open a secondary school anywhere; no one can interfere with him. The second anomaly is that, whilst every other profession has some system of registration, secondary education, which trains for every profession, has no registration of its own. Men belonging to the learned professions have all to give some guarantee to the public of their competence for the work which they undertake to perform; but in secondary education, we have nothing of the kind. Whilst I am fully prepared to recognize the knowledge and practical skill of many of the teachers who are now engaged successfully in the work, I cannot shut my eyes to the fact that a large number of assistant-teachers would be all the better if they had to pass some public examination in order to be registered as efficient teachers.

The Successful Candidates.

I must not detain you longer on this point. I will come back at once to the successful candidates, to whom the prizes and certificates have been awarded. I have just a few words to say to them. Prizes are given, it has been said, for the benefit of those who do not get them. Well, that is true. They are intended as a stimulus to those who perhaps have not sufficient energy of their own to work without some adventitious stimulus to work; but they are also given as a reward for good and honest work, and I must congratulate the recipients of the prizes that have been awarded upon the results of the Midsummer Examination, because they are a reward not merely of natural ability, nor of physical health—a very important matter in all industrial contests—nor of home advantages, nor of school advantages even; they are the reward of effort, of sustained, long-continued effort. There is a large moral element, therefore, in the means by which these prizes and rewards have been won, and it is that moral element I most congratulate you upon, because it affords the promise of future success in other fields of effort. I would say do not rest upon your oars, as successful candidates are sometimes tempted to do. I was for many years at the head of a college. I think about two thousand students passed through it during the time I was principal, and we sometimes noticed that the students who were highest coming in were amongst the lowest going out. It would be a very sorry result indeed if these early, and what I may call premature, successes deluded you into the belief that you may now rest on your oars, and abandon the means by which your successes have been achieved. Look upon your success in the right light, and I think it will be an encouragement to you to go on employing the same means by which your success has up to this point been secured. Remember that the secret of your success at school is the secret of future successes at college, and in the world. Success depends, I think, in the long run upon such simple matters as industry, concentration, self-control, and thoroughness. Even with inferior natural abilities great results may be achieved if you will simply do the work of the day, and do it honestly and industriously. With regard to concentration, let me impress upon you the importance of giving the whole of your mind to the work upon which you are engaged. Your success will not depend upon the hours during which you are engaged. I have known students who had always a book in their hand, but who were always dawdling; they were laboriously idle; they seemed to be working, and were not. Instead of giving the whole of their energies to the matter in hand, they only gave an infinitesimal portion of their attention, and with the result you might expect. With regard to self-control, you will find the necessity of that all through life. There are many things which distract the student; there are temptations on all hands: there is the yellow-backed novel, which is always waiting to be read, there are delightful occupations in which you would like to engage, there are parties at night, and I know not what in the morning; but, with the examination in view, these things must be put aside. They must be confined within reasonable limits, and the work you have to do must be done. As to thoroughness, I think success in education very largely depends upon thoroughly mastering each successive stage. If there is a single strand that is rotten, I will answer for it that it will trouble you for the rest of your days. You will be perpetually going back. Your teachers will have to underprop the building that will not stand; and of all educational work the most unsatisfactory is undoing what has been ill done, and supplying new foundations.

The Diplomas, Prizes, and Certificates were then distributed, after which

Mr. H. W. Eve, the Dean, said that it was his pleasant duty to ask the meeting to thank Canon Daniel for his presence there

that day, and for his interesting address. He did not propose to follow him over the whole field of education, but was very glad to hear him speak so well of the examinations of the College of Preceptors, a sentiment which he had no doubt would be endorsed more heartily by those who had passed them than by those who had failed to do so. He thought that the whole of the examining staff of the College did their best to come up to the ideal that Canon Daniel had set up—to try and make the papers cover the whole range that ought to be expected of the candidates, and not to limit them to small fractions of it; to make them clear, and to combine bookwork and problems, to use a mathematical term, in all subjects. He remembered very well a story told of one of the greatest teachers of some of his own contemporaries and seniors. Professor Augustus De Morgan gave a number of problems to his lads to solve at home. A week before the examination De Morgan found, rather to his disgust, that none of them had brought his problems. He said: "Gentlemen, I know what you have been doing, you have been cramming for my examination instead of doing my problems; but I will set you such an examination that all your cramming shall not be of the slightest use." In fact, what he said to them was: "Gentlemen, I have been teaching you hard all the session. I do not want you to get up what I have taught, because I shall purposely avoid examining you in it." He (Mr. Eve) hoped that was not the principle on which their examinations were conducted. He trusted, too, that the papers were never ambiguous. In revising them, he had one rule, and that was, if he did not understand a question the first time he read it over, he always called the examiner's attention to it, because he thought it possible that some of the candidates might not understand it on reading it two or three times. With regard to technical and general education, he thought that men of business, without wishing it, perhaps, often exercised a very detrimental influence on education. They were content to take sharp lads of fifteen who knew book-keeping and ciphering, instead of allowing boys to complete their school course. A boy who entered at seventeen or eighteen was put to the same work as the boy of fifteen. In the commercial world there was very little of the reserving of better posts for the better-educated lads. Men of business knew their own interests best, but he could not help thinking that they might find it to their interest to do a little more to fill the better posts in their offices with really well educated young men. If they would only do that, it would leaven very much the City in the future. They all knew how much good service Canon Daniel had done for the College of Preceptors as a Vice-President, as lecturer and examiner, and the service he had rendered to the country as a trainer of many generations of teachers. They were glad to think that even now he would not be entirely separated from education, for the new building of Christ's Hospital was placed in his parish, and he would see plenty of boys every day.

Dr. Wormell, in seconding the vote of thanks, said he would take up the parable where the Dean had left it. It was not true that all business men had a low estimate of the value of high education, and would prefer one who had had a narrow training in technical education to one who had had the broader intellectual training of a good public or private school. He remembered a good many years ago a great brewer writing to him for an office youth, and he said: "Take care you do not send me a boy who has learnt book-keeping." He was curious to inquire at the time what had led this gentleman to make such a sweeping restriction, and he said: "All the boys I have ever had who have learnt book-keeping have wished to impose their own particular methods on us, while they themselves have been quite unteachable. Send us a boy who is intelligent and well trained, and we will show him how to keep books." There were some men who did not put too high an estimate upon mere technical education. Canon Daniel possessed two kinds of knowledge the union of which in the same person was an important source of influence: he knew the elementary education of the country, and he understood secondary education. No man in England had had a more intimate acquaintance with the qualifications of the teacher, and the nature of the work, of elementary schools. He had also been associated with institutions for secondary education. For many years he had been a member of the Council and a vice-president of that College, and had given many lectures there to young men and women fitting themselves for work in secondary schools. As to the organization of secondary education and the question of delimitation, he was sure many of the fallacies and much of the venom that had appeared in those controversies was due to the fact that men wrote with a knowledge of only one side of the question. If such people were pressed to be definite as to their views, it was found that efficiency in their minds was only a matter of varnish on desks, seats, and walls. It was desirable that they should have decent buildings, comfortably furnished, but that was not the main portion of the business. Nobody could say that Socrates was not an efficient teacher in his way, though he never troubled himself about dual desks and patent varnish. It was as true now as it was in his day that the personality of the teacher was infinitely more important to the scholar than the bits of furniture in the room. Moreover, the efficiency of a high public school and the efficiency of a Board school were not to be measured by the same tests. They were incommensurable, and the same units of measurement could not be applied to both. He was reading some biographies in a paper the other day of a number of young Englishmen who had fallen in the deplorable frontier war, and noticed the writer mentioned in each case the school which had the honour of claiming the officer as its own. The name of a particular class of school was repeated a good many times over, and at the end of the article the writer said it was very clear, whatever might be the defects in public or private schools, the men they produced had two qualities which had been essential in the making of England, and which would be essential in the future to the maintenance of its greatness. These schools turned out men who could not tell a lie, and who were absolutely fearless of death. If they were to take into account natural evidences of efficiency of schools, whatever might be the nature of the new bills for the organization of secondary education, he hoped they would not disregard the evidences of the efficiency of the schools that turned out men for the service of the country possessing courage, fearlessness, independence, strong will, and incorruptible integrity. It was important in organizing secondary education to have the services of men like Canon Daniel, who knew both sides of the question.

The vote of thanks having been carried by acclamation,

The Chairman said: I thank you very heartily for your kind reception, and for the attention you have given to my remarks upon the subject of education. I should like to say one word with regard to a remark made by the Dean. When I left Battersea to take charge of a country parish I remember meeting the ex-headmaster of a public school, who said: "Are you not glad to get rid of the eternal boy?" As a matter of fact I had not to do with "eternal boys," but eternal young men, and I am bound to say that I did not get tired of the eternal young man, and I am not tired of eternal boys and girls. On the contrary, it is a great pleasure to me to meet young people. It was a comfort to be told by the Dean that I might look forward in years to come to the hundreds of boys who will be assembled in Christ's Hospital in my parish, and it is a great pleasure to meet the young people I have met to-day. The eternal boys and the eternal girls will always have a very warm place in my heart.

A PIONEER OF THE VERNACULAR.

Sir Thomas Elyot, one of our earliest pioneers in educational reform, scarcely receives the attention to which his merits entitle him. Chiefly known to students as the author of the "Boke named the Governour," we are apt to lose sight of the fact that he was one of the first Englishmen, brought up in the old formal Latin, who dared openly to write on important subjects in his mother-tongue, with the avowed purpose of encouraging the growth of the national genius. While the learned Lily was busily at work upon his Latin Grammar, which was to be issued under Act of Parliament, to which every schoolmaster would have to conform, Elyot was patiently elaborating an English-Latin Dictionary. This great undertaking of his was brought to a happy issue, and though, according to our present-day standard, it may not rank high, we must not forget that Elyot travelled along an unbeaten track, he had no precedent to go by, and was compelled to be his own guide. Boldly as he struck out for a new way to learning, it must not be thought that he affected to hold the classics of ancient Greece and Rome in light esteem. On the contrary, he valued them greatly; only he conceived that, as Greeks and Latins had done, so might we, if we gave up our time and labour to improvement. But his very knowledge of ancient languages and authors caused his reforming doctrines to be looked upon as heinous heresies by many of his contemporaries, who could not understand why a lawyer, and one who held high posts in the State, should attempt to vulgarize learning, and write on important topics in mere English. The knight, however, had faith in the genius of his own people, he recognized their growing discontent and longing for greater freedom, and, knowing full well the deficiencies of schools and schoolmasters, pressed for an open discussion

of education. After all, he cries, education is only a means to an end; it is not an end in itself. It was not sufficient to turn out masters of words; we wanted men who could think and act, men fitted to govern and be governed.

Sir Thomas was far from being a mere cabinet philosopher; he had had varied experience before he began to write. The son of Sir Richard Elyot, one of the Justices of the King's Bench, he was born about 1490, and, although details of his early life are wanting, it is certain that he received a sound classical education, and made a not altogether pleasant acquaintance with tutors and schoolmasters. So we gather from many observations scattered throughout his various books. It is said that he went up to Oxford or Cambridge, some say both, though actual records are wanting. We know that he followed in his father's footsteps, studied law, and joined the Western Circuit as Clerk of the Assizes. As time went on, he was offered various appointments, acted as Commissioner of Gaol Delivery at Oxford and Cambridge, and Commissioner to Examine into Cardinal Wolsey's Possessions; and he was sent abroad on various diplomatic missions. He was a favourite at Court, and Sheriff of his county. Intimately connected with the learned men of the day, he corresponded with Linacre, and numbered Sir Thomas More, Cromwell, and Leland among his particular friends. In his thirty-fifth year he married Margaret Abarrow, a learned lady, a *protégée* of More, and companion of his daughters. With More his friendship, indeed, was specially close, the two men having much in common. Elyot was away when More fell a victim to Henry VIII.'s ire, but when he returned he found himself in ill odour as a friend of the unfortunate ex-Chancellor. The cloud was only dispelled when the learned knight revealed his project for the "English-Latin Dictionary," a scheme which so charmed Henry that he sent a parcel of books from his own library to the author.

As a matter of fact, Elyot, whether practising his profession, filling official posts, or travelling on embassies, always found time for study and literary labours. A quiet observer of his fellow-men, as well as an active participator in civic and political life, he was far from satisfied with his times, and traced much of the evil to mistakes in education. He, like other reformers, complained that men paid far more attention in choosing a groom or a butler than they did in selecting teachers for their children. If schoolmasters were, as a rule, bad, it was, he thought, largely owing to the indifference of parents. His small book, "Of the Education or Bringinge Up of Children," dedicated to his married sister, was undertaken for the great love he bore his two little nephews. He wished to see them learned, but, above all, good and happy men, and in his esteem this could only be attained by careful and humane learning. In his "Boke named the Governour" he elaborated his teachings.

Taking the new-born babe from his mother's arms, Elyot conducts him by slow degrees through infancy and childhood to man's estate, at every stage giving minute directions as to the management of the child and the conduct of those about him. Paramount above all else, learning was to be made pleasant, so that children should love virtue and wisdom, hate vice and ignorance. As for teachers, they must learn that "not only watch is necessary, but also sleep; not battle only, but also peace; not winter and storms only, but also fair weather and summer; not only work-days, but also high feasts and holidays." His scheme provided for the harmonious training of the intellect, the moral sense, and the body; certainly physical training had a strong and consistent advocate in our author. In a word, he wanted the rearing of stout men and true, and he held that this end could be better attained by kindness and careful development than by cruelty and cramming. It is worthy of remark that this English book on education met with considerable attention. Henry VIII. said the language was so pure that the author deserved praise for not having introduced therein a single new-fangled word from the Greek, Latin, or French. Elyot looked upon words as mere tools, means towards an end, and it was one of his aims in writing "The Governour" to prove that no single language had a special educative value. Greek and Latin were so intimately associated with wrong notions of the bringing up of children that he desired to show that English could be used as a means to bring out what was in a boy. While the schoolmasters aimed to crowd the memory with words, he wished to develop the faculties, train the mind to think, prepare the body to act.

Although his literary sympathies were wide, his pen was generally busied with those grand topics, the up-bringing of citizens and wise governance of the State. He published "The Boke of Sapience" in 1539, which was followed by "De Rebus Memorabilibus Angliæ" and "A Defence of Good Women." He translated the "Sentences of the Emperor Alexander Severus" and the "Doctrinal of Princes" from the Greek, while he "did into English out of Latin" "St. Cyprian's Sermon of the Mortality of Man," "The Rule of Christian Life, of Picus, Earl of Mirandola," "Of the Knowledge which maketh a Wise Man," and "A Preservative against Deth."

Quite in keeping with his lofty aims was the issue of his "Castel of Helth," a medical work of such sound common sense that it roused the jealousy of physicians and apothecaries, who, however, could only abuse the author, without daring to criticise his work, condemnation of his daring interference with a close profession being safer than finding fault with his simple rules for the preservation of health. The "Image of Governance," ostensibly translated from the Latin, was a clever and determined attack on the abuses of the day; under the flimsiest of disguises he did not shrink from telling unpleasant home-truths, and, indeed, did not even retreat before the majesty of the throne itself. It ran through two editions during his life and two more afterwards. The "Boke named the Governour" also went through several editions, seven during the sixteenth century, and other of his works were repeatedly called for. Living, as we do, in an age when there is a keen interest in the revival of learning, there is some danger of our losing sight of the excellent work done by Sir Thomas Elyot, and under-estimating the influence he had on his own generation and those which followed immediately after. Much of his work is of a permanent character; we can still read it with pleasure, style and matter being nearer in accord with the nineteenth century than might be imagined. Though many who have succeeded him had educational messages to give, few have delivered them better.

GUY CADOGAN ROTHERY.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A MEETING of the Council was held at the College, Bloomsbury Square, on the 17th of November. Present:—Dr. Wormell, Vice-President, in the Chair; Mr. Baumann, Rev. J. O. Bevan, Mr. Bidlake, Mr. Bowen, Mr. Butler, Mr. Charles, Mr. Eve, Mr. Harris, Rev. Dr. Hiron, Miss Jebb, Mr. Montgomery, Mr. Pinches, Rev. Dr. Scott, Mr. Sergeant, Mr. Stewart, and Rev. J. Twentyman.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the number of candidates entered for the Christmas Certificate and Junior Forms Examinations was about 10,500.

The use of the College Lecture Hall was granted to the Committee of the Headmasters' Conference for holding the meeting of the Conference in December, and also to the Modern Language Association for holding their Annual General Meeting.

The Report of the Teachers' Training Committee was adopted, and the programme of the Winter Meeting of Teachers, to take place from the 4th to the 15th of January next, was approved.

Mr. J. Easterbrook, M.A., Headmaster of Owen's School, Islington, and Mr. G. Armitage-Smith, M.A., Principal of the Birkbeck Institution, E.C., were elected members of the Council.

The following persons were elected members of the College:—

Miss H. Barnes, Grammar School for Girls, Worcester.
Mr. T. S. Bateman, L.C.P., 5 Lorne Street, Chester.
Mr. G. W. Gentleman, A.C.P., Arnold College, Leigh, Essex.
Miss L. M. Hardy, A.C.P., St. George's Training College, Edinburgh.
Miss L. E. Page, Stone Cottage, Sutton Common, Surrey.
Mrs. Swayne, Middle Class School, Farnham.

The following books had been presented to the Library since the last meeting:—

By the AGENT-GENERAL FOR NEW SOUTH WALES.—Report of the Minister of Public Instruction, 1896; Annual Report of the Department of Mines and Agriculture, New South Wales, 1896.

By the SOCIETY OF ARTS.—Report of the Fourth Meeting of the International Congress on Technical Education, held in London, June, 1897.

By G. BELL & SONS.—Law's Short History of Hampton Court.

By BLACKIE & SON, Ltd.—Evans' English Masques (Warwick Library of English Literature).

By the CLARENDON PRESS.—Sweet's First Steps in Anglo-Saxon.

By W. B. CLIVE.—London University Guide and U.C.C. Calendar, 1897–98.

By MACMILLAN & CO.—Lock's Trigonometry of One Angle; Nall's Elementary Latin-English Dictionary; Shuckburgh's History of Rome for Beginners; Webb's Macaulay's Lays of Ancient Rome.

By G. PHILIP & SON.—Bétis and Swan's Psychological Method of Studying Languages:—French Series, Introductory, and English Series, No. I. (Book I.).

Calendars of Mason College, Birmingham, 1897–98; City of London College, 1897–98; University College, Nottingham, 1897–98; St. Thomas's Hospital Medical School, 1897–98; Trinity College, London, 1897–98.

REVIEWS.

PSYCHOLOGY FOR TEACHERS.

(1) *The Teacher's Handbook of Psychology.* By James Sully, M.A., LL.D. Fourth edition, re-written and enlarged. (Longmans.) (2) *Psychology: an Introductory Manual for the Use of Students.* By F. Ryland, M.A. (Bell & Sons.)

When a book of the solid character of a treatise on Psychology has reached a fourth edition, it may be regarded as fairly beyond the blessing or the ban of the reviewer. Yet we should be glad to know that all teachers, of whatever rank, had provided themselves with copies of Professor Sully's work, and had set themselves squarely to the task of assimilating its teaching. True, it looks a tough morsel, and even the get-up of the volume is more substantial than attractive; but the trouble of mastering the contents would be many times repaid by the conquest. Not only would the students find their teaching power greatly increased, but they would discover ways and means of lightening the everyday difficulties of its application; and, beyond all, there would be an immense gain in firmness of mental grasp, and in

the broadening of intellectual view. The sense of discouragement would give way before the simplest honest attempt; for nowhere else will the subject be found more plainly and lucidly expounded, or more specifically adapted to the teacher's occasions. This is not merely a book of masterly ability; it gives evidence of great pains to fit the exposition to the particular class of readers—pains not to be adequately recognised except by such as know a good deal of the subject and have also had experience in the practical work of teaching. Psychologists have outlived the time when they were regarded curiously as people up in a balloon. The balloon is now seen to be actually rooted in the firm earth. The results of psychological inquiry are acknowledged to be eminently applicable to practical purposes. The best training colleges for secondary teachers are labouring to appropriate them for the scientific promotion of their educational work. But every teacher, whatever his grade, ought to aspire to something more adequate than rule of thumb; and he cannot do better than take counsel with Professor Sully in the pages of this volume.

With all the new alterations and additions, the book still remains an "introduction" to the subject. At the end of every chapter, however, the author gives carefully selected and most useful references to other readily accessible works where the same matters are treated; and, if the worthy student prosecutes the course thus indicated, he will soon find himself drawn deeper into the discussion. At first, of course, he may neglect these finger-posts; but, on a second reading, he must, we venture to urge, take at least an occasional excursion under Professor Sully's directions. The full mastery of the collateral illustrative matter is necessarily a question of time and labour, but the labour is lightened as we go forward. The enlargement of the present edition amounts to some fifty pages. The additions are less of the nature of mechanical accretions than of organic developments. The exposition of principles has been somewhat amplified, partly for more clearness, partly also for incorporating the latest results of inquiry. Attention is drawn to the recent outcome of experimental investigation—a side of the inquiry that is more fully treated, as we lately saw, in Mr. Titchener's elementary book, to which Professor Sully duly refers. As might have been anticipated, the Professor has also expanded the branch of child-psychology, which promises exceptionally fruitful results, and to which the system of experimental tests is particularly applicable. The extensive re-writing of the book implies a laborious and unselfish effort to place the exposition still more effectively before the minds of readers. This, if liable to be a somewhat thankless exertion, is essentially a praiseworthy endeavour. The very smoothness of the student's path will delude him as to the magnitude of his indebtedness to his roadmaker.

> If you had seen these roads before they were made,
> You would hold up your hands and bless General Wade.

There can be no question that Herbart was right in laying down that psychology is the primary auxiliary science of the teacher, inasmuch as it informs him of the ways in which the mind works, and of the modes in which external forces excite, or alter the directions of, mental activity. Nor can it be doubted now that "education has to do with the development of power or faculty," or that "it aims at a full harmonious realization of the normal capacities of man." It is from such a high standpoint that Professor Sully necessarily writes. He regards the main business of the educator as "the training of the mind to certain good practices in thinking and acting." The question, therefore, naturally occurs, "Does the State think so too? Is the Education Department motived by the scientific principles here asserted and expounded?" In a way, no doubt, it is; and, it may be added, the practice of inspectors has been gradually moulded somewhat in the same direction. Yet the examination system, and the craze for tangible results—for the reproduction of hard facts—seem to militate strangely against scientific practice. In any case, the scientific practitioner will produce the best results; but, with the existing pressure, it may be doubted whether it does not demand from the unscientific teacher a great exercise of faith to change his system.

The inspectors, in particular, ought to have Professor Sully's book in evidence. "During the periods of more rapid growth especially," says the Professor, "a large fund of nutritive material is needed for the processes." Of course it is. But will the inspector make, we do not say adequate, but any allowance whatever in the case of obviously underfed children? "The educator should bear in mind that the brains of children of the same age vary greatly in their size and functional capacity." The educator is painfully aware of the fact. But does not the inspector apply the same rule to them all, without making any such allowance—even when a class is reported on generally, and not individually? Racial heredity, again, works both for and against the educator, but probably he is hindered by it more than he is helped. It is perhaps not unfair to hold that scientific teaching will not obtain a fair field until the examination system is much more liberally relaxed. A certain amount and variety of knowledge must be got into the small heads, admittedly; but, after all, the great thing is training, and for the accomplishment of this all-important purpose the teacher must be permitted a freer hand, and his efforts must be rewarded with a more intelligent appreciation.

(2) Mr. Ryland's book is in its seventh edition, and has been almost entirely re-written. Since it first appeared, many years since, the science of psychology has been both developed and specialized. It has been separated, on the one hand, from the metaphysical speculations with which it was formerly often confused; on the other hand, recent investigations in biology have well nigh revolutionized its method. This manual does not claim to be an original investigation; it is a clear exegetical statement of the scope and methods of the science, historical as far as is necessary, but aiming chiefly at giving a student, to whom the subject is new, a comprehensive grasp of the outlines. In this it appears to be successful. The author has made himself well acquainted with modern physiological investigations, especially in Germany, and his application of the method of psychophysics is as clear and complete as can be expected in an introductory manual. The work supplies a real want, and we heartily recommend it. There is a useful list of authorities appended.

New Cambridge Texts.

(1) *The Republic of Plato.* With Critical Notes, and an Introduction on the Text, by J. Adam. (Cambridge University Press.) (2) *The Philebus of Plato.* Edited by R. G. Bury. (Same publishers.) (3) *Sophocles, The Text of the Seven Plays.* Edited by R. C. Jebb. (Same publishers.)

(1) We rejoice to see that the University Presses and some important publishing houses are beginning to send out classical texts worthy of English scholarship, and we welcome Mr. Adam's text of "The Republic" as the work of an Englishman who has carefully studied the subject for nearly ten years. The editor has done a considerable amount of manuscript reading, and he has discovered what a good many other textual critics have had cause to lament, that Bekker's collations are not to be depended upon. We should almost venture to lay it down as an axiom in textual matters that the uncorroborated evidence of Bekker is not worthy of credence. Cobet was perfectly right in saying that Bekker paid far too much attention to the quantity and far too little attention to the quality of his work.

The principles by which Mr. Adam has been guided in forming his text will meet with general approval, though we cannot agree with quite all of his statements. "An editor of 'The Republic,'" he says, "might well be thankful if he could be spared the necessity of using any MSS. except only A and Π. But it must first be proved that all the other MSS. are directly descended either from A, or from Π, or from both of these MSS. together." The statement manifestly goes too far. Why should it not be sufficient to prove that the other MSS. all belong to the same *class* as A or Π, and, being later or inferior to them, may accordingly be wholly or for the most part neglected? We are not concerned to prove that such is the case. We only point out that Mr. Adam has started off with a statement that cannot be maintained. Nor is it correct to write that Cobet "was willing to commit the other MSS. except A to the flames," seeing that Cobet's sentence is "Vile damnum si omnes ad unum flammis comburerentur." What Cobet meant, we conceive, by his incisive remark, was that a fairly satisfactory text of the "Republic" could be produced with the help of A alone—and few will deny that his contention was just. It is, however, no pleasure to insist on small blemishes in Mr. Adam's work, which has been competently and successfully performed.

(2) The "Philebus" is one of the most complicated and most perplexing of Platonic dialogues. Mr. Bury puts the matter simply when he states that "the difficulties which beset an editor of the 'Philebus' are twofold—material and formal, or philosophical and textual; and sometimes the two interlace." The fact is that Plato here conducts us through a series of intricate problems the bounds of which are continually verging on one another, and leaves us at last in what is nothing better

than a hopeless *impasse*. For, indeed, the "final scheme of Goods," which is supposed to clear up everything, is about the most obscure thing in the dialogue; and, to add to our difficulties, the text of the passage in which the solution is propounded is corrupt beyond hope of certain restoration.

Under these depressing circumstances Mr. Bury has acted wisely in handling his subject experimentally. His aim, he says, is "little more than to make a slight contribution, and to collect some of the outlying material, which may aid in the accomplishment of that desirable end"—the production of a final and exhaustive edition. It is not, therefore, to be expected, even if it were desirable, that the editor of the "Philebus" should tread otherwise than warily where the ground is so treacherous. Sometimes even Mr. Bury has committed himself to statements that will hardly bear examination if placed side by side. Thus, on one page of his exceedingly interesting introduction, he says that "the main object of the discussion . . . is to examine critically the rival ethical doctrines which we may term Hedonism and Intellectualism." Elsewhere he writes, with some inconsistency, "the main theme of the 'Philebus,' to judge by the traditional title (περὶ ἡδονῆς), as well as by the space occupied in its discussion, would appear to be the character of Pleasure, and its claim to be regarded as the proper end of human action." And yet again, "We now come to the main subject, concerning the nature of the Good."

We do not think that the "Philebus," even in Mr. Bury's edition, is likely to become or deserves to become anything more than it is at present—a subject that repels and fascinates, in about equal proportions, the professed Platonist. Its literary qualities are not of a high order; it is a characteristic work of a great thinker's old age, when he has reached the melancholy time at which he becomes fearful lest he may not live to deliver the whole of his message to the world. And even the subject matter scarcely appeals to the general student. For him, perhaps, the only thing of solid interest in it is that Plato here recognizes, and is the first Greek who recognized, "the existence of a pure disinterested form of pleasure."

(3) Scholars will be glad to have in a convenient volume the text of Professor Jebb's splendid edition of "Sophocles." We could wish that the editor had seen his way to including the fragments, and we venture to hope that in the next edition he will supply what we cannot help regarding as a regrettable omission. Prefixed to the volume is a very valuable introduction, in which the history of the text is dealt with in an interesting manner. Dr. Jebb, of course, gives all due credit to Elmsley for rescuing the great Laurentian MS. from the neglect in which, in spite of many printed editions of Sophocles, it had been suffered to remain. It is hardly too much to say that Dr. Jebb's masterly sketch may serve as an illustration to the student of the history of textual criticism in general. For, indeed, it is the common story. You have the Aldine based on a second-rate source. Then follow upwards of three centuries, during which, partly through ignorance of what Dr. Jebb well calls the diplomatic side of criticism, partly through lack of the means of communication, the best testimony is neglected, and the Vulgate, which is apt to be synonymous with "Stephanus," reigns undisturbed. By his clear exposition of the course of history in the case of Sophocles, Dr. Jebb has laid students under yet another obligation.

Board School Boys.

Studies in Board Schools. By Charles Morley. (Smith Elder, & Co.).

When our Elizabethan forefathers were to have their souls purified by the emotions of pity and terror, their play writers and poets showed them "with how grievous plagues vices are punished in great Princes and Magistrates, and how frail and unstable worldly prosperity is found, when fortune seems most highly to favour." Tragedy in those days was "gorgeous," and men beheld her

In sceptred pall come sweeping by.

With the rise of democracy the scene has shifted. It is no longer the palace, but the prison, the infirmary, the workhouse, that forms the setting of our modern drama. Our age is no longer called upon to fight the Spaniard, we are confronted with Famine, Pestilence, and Murder in our midst. But still the dramatic instinct remains; still, as Bishop Blougram says,

Our interest's on the dangerous edge of things;

and we still require the genius of a poet to perceive the dramatic possibilities of a situation which, to the ordinary man, is only squalid and depressing, to show us

The honest thief, the tender murderer,

where most would only see a low-browed criminal. Such a form of literature may have most potent practical influences, and the social reformer, the philanthropist, the missionary may find it to their profit sometimes to don the player's motley and dramatize the situation; for public attention may be gained sooner by a show than by a sermon, and a picture of the thing acted may sometimes appeal more forcibly to the imagination than a direct narrative.

In this brilliant series of "Studies," Mr. Charles Morley takes the Board School as a stage on which to exhibit the humours, often very entertaining, of the semi-criminal, semi-pauper ne'er-do-weels who live a little over the border of respectability. The book is not a political manifesto; we do not discover whether Mr. Morley is a Progressive or a Moderate; it is not an account of the work of an ordinary elementary school. It is an account of the life of extra-ordinary schools. On the one hand we have a picture of the well-known mixed school in Fleet Road, Hampstead, where "the boys wear Eton collars and very good suits, the girls are patterns of neatness," and where the methods of training and instruction are so numerous and so advanced that the teacher of many a secondary school may well ask himself what the minimum standard of efficiency in any Secondary Education Bill is likely to be when such work as is here described can be seen at an elementary school. The greater part of the book, however, deals with the working of the Education Act under the least favourable conditions. It shows us how the "Wild Boys of Walworth" are being tamed, how "Citizen Carrots," who has to support his family by selling papers, is trained to his civic duties, how special classes of children—truants, cripples, blind, dullards—are taken in hand. The most difficult questions of social politics confront us; we see that Free Education is no assistance to the very poor unless it be supplemented by Free Boots.

Investigations into the labours of the visitor, the missionary, and the policeman—here technically called "the copper"—are recorded in chapters as pathetic as they are interesting. The story of the drunken old woman who sent from the police-court for the missionary, "and all she wished to know, with tears of penitence rolling down her cheeks, was whether he—*could get her a cook's place*," how pathetic it is! So, too, are the many tales of the artful and mendacious ways of both parents and children in seeking to escape school. Billy Gough was once arrested by a visitor truanting. When they came to the school, Tommy Gough at once called out, "Why, its Billy!" But Billy regarded him with a cold and staring eye, "Oo am I, d'ye say? Oo are you calling Billy? I never seen you before. I ain't got no bruvvers, I ain't."

It is pleasant to find that Mr. Morley takes a hopeful view of the future. He was impressed by the remarkable influence a devoted teacher is able to exercise over even the wildest pupils. And such teachers are happily not uncommon. He attended the religious instruction at one school, and, in his sketch of the lesson on obedience, it is evident that he was surprised to find in what a practical manner the ethical side of the teaching is brought home to the children, while his account of a lesson on faith shows that what some might call the more definitely religious teaching is both earnest and effective.

The book has humour, as well as sympathy and insight, and is eminently readable. Its chief merit, however, as it appears to us, is that it brings out clearly with what good sense, good temper, and self-devotion the unending difficulties of the vast enterprise of primary education are met. To readers ignorant of the working of the Act, or who have come to believe that its working is mechanical, unsympathetic, uninspiring, and consequently barren, this book will be a revelation.

New Mechanics.

Theoretical Mechanics: an Introductory Treatise on the Principles of Dynamics. By A. E. H. Love, M.A., F.R.S. (Cambridge University Press.)

This is an important and remarkable treatise, and, should it succeed in coming into regular use as a text-book, it would revolutionize the present methods of teaching Mechanics. That the changes introduced by the author's presentation of the subject are of a fundamental and extensive character will be readily understood from the fact that Newton's Laws of Motion, are only mentioned in an historical note. The last paragraph of

this note (page 101) gives us the key to the book :—

It has been the task of modern criticism to disentangle in Newton's theory the definitions and the postulates. That the Laws of Motion are of the nature of postulates is clearly recognized in Newton's word "Axiomata"; but it is now held that they also partake of the nature of definitions. According to the account we have given, there is an essential physical discovery presented in the Newtonian theory—the discovery that bodies possess the properties we associate with the word "mass"; . . . the rest of the theory is of the nature of definition. In particular, the theorem of the parallelogram of forces is a consequence of the definition of force as a vector.

The author has not, of course, attempted to change, but only to improve, the foundation laid by Newton; and in this, we think, he has failed. It is still true that "nothing so simple, and at the same time so comprehensive [as Newton's Laws of Motion], has ever been given as a foundation in any of the sciences," and that there does not yet exist "a necessity for any addition or modification."

The Newtonian method starts from common notions, and leads up by a process of reasoning to a scientific conception of the relation between mass and force; but this book starts with ideal notions, expressed in the form of definitions, for the purpose of founding upon them a strictly logical deductive theory. In this way the application of the theory to natural phenomena is not even considered until a large part of the theory has been advanced; and it is nowhere clearly pointed out by what methods this theory may be verified as applying to nature. It seems useless to attempt to found a theory of mechanics, which shall be applicable to nature, on a strictly logical basis until the mechanism of nature is more or less understood; at any rate, such a theory must be far more difficult of comprehension than one founded on common notions. The book appears to be too difficult to be used for any other than a specialized or post-graduate course, such as that prescribed for Part II. of the Cambridge Tripos. For such a purpose the extraordinarily abundant collection of examples is quite unnecessary, and the space devoted to them would have been better used for enlarging the subject-matter.

The first chapter is on the determination and relativity of position. The second is on the geometry of vectors, which are somewhat vaguely distinguished as being unlocalized, localized at points, or localized in lines. In the third chapter, displacement is defined as an unlocalized vector; but why it is unlocalized is not explained. The velocity of a moving point is defined to be "a vector, localized in a line through the position of the point, whose resolved part in any direction is the rate of displacement of the point in that direction per unit time." Is there any necessity for regarding velocity as localized at all? And, if so, why is it localized in a line rather than at a point? Is there such a thing as a couple formed by two velocities? The author seems to treat velocity as if it were momentum, and acceleration as force. In a later chapter we have still more abstruse definitions of a material figure, mass-ratio, mass, and force. The great majority of students cannot derive clear notions from these definitions, and cannot follow with intelligence the theory based upon them. The term material figure seems specially hazy and misleading, since it apparently does not mean a figure formed of matter such as exists in nature.

If the class of students for whom the book is intended, "beginners in mathematical analysis," can triumph over the initial difficulties, as comprised in the definitions, they will be able to understand the rest of the book, and will find it full of interest. They will find the subject presented in a broad aspect and in its logical order, and will learn to form their equations from general principles which have been previously stated in easily remembered terms. Many important facts and ideas are referred to which are not to be found in other text-books. We have only space to mention the excellent treatment of impact (page 255–278), although, unfortunately, some of the examples given are open to objection. The author says (page 257) :—"Even if we could calculate from the theory of elasticity the deformations of impinging bodies, we should, nevertheless, not be in a position to give a complete account of the action that takes place in impact." All that is known for certain of the result of impact is stated in Newton's law of relative velocity for two bodies impinging directly or obliquely. If, however, the nature of an impact is such that it necessarily brings into play a second impact, then the second reacts upon and causes a change in the first, and we have no longer any right to assume that the law of relative velocities holds. In such a case the final velocities generally depend on chance circumstances. If examiners would refrain from setting questions on impact to which definite answers cannot be found they would remove one impediment to correct teaching.

All about Electricity.

Electricity in the Service of Man. Translated from the German of Urbanitzky by R. Wormell, D.Sc., M.A. Revised and enlarged by R. M. Walmsley, D.Sc., F.R.S.E. (Cassell.)

The enormous activity that has been devoted to the investigation of electricity during the past two generations has led to the curious circumstance that the whole course of life in a civilized community is constantly in dependence on an agent about whose nature the vast majority of people have quite erroneous notions, if they have any at all. The gradual spread and improvement in method of scientific education are changing all that, but there is still ample room in the present generation for a popular treatise on the subject. It is but few years since popular works and elementary text-books alike continued to bring up the crude theories of electric "fluids," and mentioned with a mixture of respect and caution the probability that in the future electricity would prove to be, like heat, a "mode of motion." Yet, long before this time, the investigators had realized that electricity is quite a different thing from heat, and that electric energy is far more akin to the energy that results from the separation of gravitating bodies from one another. But to the popular mind electricity is still a mere name to conjure with—a means, for instance, of quieting any uncomfortable suggestions as to the exhaustion of our coal-supply—and to such minds any attempt clearly to explain the nature of electricity is hopeless, for they lack those exact physical notions which are essential as a basis to the understanding of the explanation. Hence the writing of a popular account of electricity is by no means an easy matter. The present work appears to us to have met the case with considerable success.

The first part of the book (230 pages) deals with general facts and principles. Starting with an historical account of the science, it continues with descriptions of the general phenomena of magnetism, electric charges, and electric currents. Then follows a more detailed account of the measurement of currents, the effects of currents, the relation of currents to magnetism, induction, and so on, to the phenomena of discharges in high vacua and Röntgen rays. A brief account of "animal electricity" and an appendix on units of measurement complete Part I.

Part II. covers some 730 pages. Division 1 deals with machines for generating electricity—dynamos, primary and secondary batteries, thermopiles, &c. Division 2, occupying a full half of the whole volume, treats of the multitudinous modern applications of electricity, in lighting, locomotion, mining, metallurgy, telephony, and telegraphy. A very full index adds to the value of this second part as a work of reference. The whole book is plentifully illustrated, there being as many illustrations as pages, viz., over 950—a good number for seven shillings and sixpence.

Gothic.

Gotisches Elementarbuch. Von Professor Dr. W. Streitberg. (Heidelberg: Carl Winter.)

This book of two hundred pages is the second of an excellent series of works dealing with the old Teutonic dialects. Students aiming at a wide as well as sound knowledge of Teutonic philology should, however, begin by mastering the earlier volume, namely, the same author's "Urgermanische Grammatik," in which he treats of those dialects in relation both to one another and to the Indo-European *Ursprache*, and considers such wide-reaching subjects as Grimm's Law, Verner's Law, Accent-theory, and the like. To the "Urgermanische Grammatik," in fact, the reader of this second volume is referred whenever its special contents approach those more general subjects. But students who desire to master Gothic alone will find in this volume all they want, and, perhaps, more, treated by a first-rate philologist, who has himself made valuable contributions to linguistic science. After a short bibliography, the author gives a compact sketch of the Goths, of "Wulfilas," and of the extant Gothic remains. Next comes a minute and thorough-going treatment of the phonology of the dialect, occupying a quarter of the book. Then follow, in succession, a sufficiently copious accidence and syntax, twenty-four pages of reading matter, and a vocabulary of thirty pages (double columns). By an extensive use of small type, the whole forms a dense mass of information, and the information is "up to date." Yet there are two or three obtrusive slips that show how the acutest writer may nod. Thus,

page 87, the perfect (or passive) participle of the verb *niman* is spelt six times with *i* instead of *u* (*numans*, &c.). Page 78, the reflexive pronoun (*sik*, *sis*, *seina*) is given thrice alongside and as if belonging to the singular, plural, and dual of the first and second personal pronouns; yet it can never be used except in the third person. Page 108, the heading "*ô*-Konjugation" will certainly mislead the student, following, as it does, the treatment of the specially Gothic "*ô*-Verba"; it refers, of course, to the division of Indo-European verbs whose first person singular present showed the suffix *ō*, as distinguished from those that showed *-mi*. And, page 103, four classes of weak verbs are (rightly) mentioned; but, in the list just below, one class (the *ai*-verbs) is omitted, and the fourth class is given as the third.

SHORT NOTICES.

CLASSICS.

Notes on Greek and Latin Syntax, by G. B. Green (Methuen), is intended "to assist students of syntax by directing their attention to the most important constructions in the Greek and Latin languages, and to indicate the correct method of discussing grammatical difficulties in critical sentences." In other words, the book is a sort of key to college "critical" papers, and, as such, is likely to prove very useful to candidates for scholarships. Occasionally we wish that Mr. Green's treatment had been a little fuller; for example, his note on Greek indirect questions is scarcely adequate. The book concludes with a good list of miscellaneous examples, which would be improved by the addition of the numbers of the sections that they illustrate. The price of the book is remarkably low, and its get-up is all that can be desired. The author has acted wisely in making the treatment of the constructions found in the two languages run, as far as possible, parallel.

Macmillan's Elementary Latin-English Dictionary, by G. H. Nall (Macmillan), is a wonderfully cheap and well-executed book, and should find wide acceptance in schools. A great advantage of the book is that—like a German work of a similar kind, to which Mr. Nall may or may not stand indebted for his idea—the words are confined to the authors most read in the lower forms.

A History of Rome for Beginners, by E. S. Shuckburgh (Macmillan), is a capital piece of work, in every respect worthy of the author and the publishers. The type is admirably clear; and some of the illustrations are nothing less than a revelation to all who in their school days suffered many things from their school-books, and, in their turn, inflicted well-merited sufferings on the miserable pictures. Mr. Shuckburgh continues his narrative to the death of Augustus, and we think the date chosen has decided advantages for junior students, who are too often left without any idea of the principles on which the great imperial system was based. The book is conveniently arranged in sections, and there is an excellent table of principal events.

Mr. W. S. Robinson's *Short History of Greece* (Rivingtons) was favourably noticed in this column on its first appearance, and it is not surprising to find that the book has already reached the third edition. Like Mr. Shuckburgh, Mr. Robinson goes further than is usual in elementary histories, carrying his narrative right down to B.C. 30, and giving a brief outline of the subsequent events.

Passages from Latin Authors for Translation at Sight, selected by E. S. Shuckburgh (Macmillan & Bowes), is the fourth edition of a volume familiar to teachers of Cambridge pass-men. The editor has added to the collection a new part, consisting of easier pieces than those contained in what was formerly the first, but is now the second, part. From practical experience of the work, we think that the change is likely to prove beneficial.

Xenophon, Anabasis, Book III., edited by G. M. Edwards (Cambridge: Pitt Press), is a rather scholarly piece of work, in which the editor has made an excellent use of Layard's "Nineveh and Babylon," and of several well-known editions. The brief notes on the language are generally good. Occasionally, however, they seem to us to be open to criticism. Thus he states that "the magnetic power of interrogatives over ἄν often attracts it out of its natural syntactical position." But the principle of the thing, correctly stated elsewhere by the editor himself, is that the ἄν is put early to show the nature of the sentence. If interrogatives are "magnetic," how is it that they can only "attract" a single word? Again, on the words παρὰ ταύτην τὴν πόλιν ἣν πυραμίς it is going beyond the mark to say that the use of παρά here is "unusual," and misleading to say that παρά with accusative "generally denotes 'motion to' or 'motion along,'" inasmuch as it can regularly denote several other things. Nevertheless, Mr. Edwards is generally a trustworthy guide.

Demosthenes, Olynthiacs, edited by T. R. Glover (Cambridge: Pitt Press), is the second English edition of the "Olynthiacs" that has appeared this year, and we do not think that Professor Glover's work will bear comparison with Dr. Sandys' edition. Mr. Glover bases his qualification to edit a school-book on the fact that he was once a schoolboy, and so knows what schoolboys find interesting. We have dealt with a good many ourselves, and we venture to tell Mr. Glover that the schoolboy of the present day will not find slipshod notes such as he too often writes so interesting as irritating. For instance, on "Olynthiac" I., § 2, ὅπως ἐνθένδε βοηθήσητε καὶ μὴ πάθητε, he offers the following sapient remarks:—"This, the MS. reading, well authenticated [in point of fact there is another MS. reading], is one of the passages which dispose of the so-called Dawes' Canon, a monument to the solemnity with which grammarians make rules. . . . If editors, ancient and modern, had been content to reproduce what they saw before them, without practising their own wits in bettering other men's work, textual criticism might have been a good deal easier." Fortunately, there is generally a Nemesis for this sort of stuff; and, accordingly, in the very next sentence of the speech, Professor Glover "reproduces," without any comment, H. Wolf's impossible τρέψῃ τε for the MS. τρέψηται, whereon he may profitably consult Dr. Sandys. In a similarly critical spirit Professor Glover gives ἐν προσθήκης μέρει in III., § 14, without any MS. authority at all, but merely because he has diligently "reproduced" his Baiter and Sauppe. We should not have drawn attention to such things if the editor had kept to the easy principle of "not discussing the text," as he promises in his preface; but, when he talks about "textual criticism," he himself challenges criticism of his text.

Pylos and Sphakteria, from Thucydides, by W. H. D. Rouse (Rivingtons), is an addition to the publishers' middle-form Greek reading-books, prepared by the editor of *The Retreat from Syracuse* in the same series. Mr. Rouse embodies in his introduction the results of Mr. Grundy's survey of the ground and of his own observations made on the spot. We respect Mr. Rouse as a serious student of ancient sites and as a successful schoolmaster, and we are glad to find that his new volume is much better than the earlier one. At the same time, he ought to avoid misprints such as "subjunctive" for "subject" on page 35, and such notes as this on οὔτε ... τε: "Two sentences may be connected by τε when one is negative, the other positive," which is a very muddled way of saying that οὔτε ... τε replaces οὔτε ... οὔτε under the circumstances referred to.

From *Pantoia*, a second book of Greek translation, by H. R. Heatley (Longmans), we learn that it is a very general opinion—among proprietors of preparatory schools, we presume—"that the standard of Greek in entrance and scholarship examinations should be lowered." We should have thought that the standard is low enough already, unless Greek is to be abolished altogether in such examinations, for which there is much to be said. Putting that aside, Mr. Heatley's little volume is well done, and contains many good passages.

Facillima, first Latin exercises, by J. Went (Longmans), "is designed to lead young boys, as rapidly as possible, by means of very simple exercises, to some easy reading-book." Those who approve of the principle will find the book useful. It will not teach boys to write Latin.

Junior Latin Syntax, by J. A. Stevens (Blackie), appears to be modelled very closely on the Latin Primer. It is, of course, impossible to say much in such a book, but the brevity of the following is very misleading: "Dum (*while*) takes the present indicative *even* in *oratio obliqua*," a remark which is followed by an example in the *recta*. The editor should consult Riemann's *Syntaxe Latine*: "On le trouve construit, même dans le style indirect, avec le *présent* de l'*indicatif*, . . . mais cet emploi . . . est *rare* dans la prose classique." But we doubt whether Mr. Stevens' investigation of Latin syntax has carried him very far.

FRENCH.

(1) *Dictionnaire phonétique de la langue française.* By H. Michaelis and P. Passy. (Hachette.) (2) *French Practical Course.* By Jules Magnenat. (Macmillan.) (3) *A Comprehensive French Manual for Students Reading for Public Examinations.* By Otto C. Näf, M.A. (Blackie.) (4) *French Idioms and Proverbs.* By de V. Payen-Payne. (Nutt.) (5) *The Yersin Phono-Rhythmic Method of French Pronunciation, Accent, and Diction.* By M. and J. Yersin. (Lippincott.) (6) *Extraits des Historiens français du XIXe Siècle.* By Professor Camille Jullian. (Hachette.)

(1) This "Dictionnaire phonétique" should certainly render good service to all who require to have a definite idea as to the true or best pronunciation of French words. The system of transcription adopted is that of the International Phonetic Association, with which all students of phonetics are acquainted. The book will no doubt become a recognised authority with students of the French language, native or foreign.

(2) M. Magnenat's method is lucid enough for a French pupil, or a foreign pupil well versed in grammar, but we entertain some doubt as to its adaptability to a class of English boys. For such as can read and speak French, so as to be able to tackle a grammar written throughout in French, no doubt this book will be very useful. It is carefully put together, full of valuable information, and interesting. But it is with difficulty that the average boy is made to understand grammatical rules in the vernacular. What will it be then when he is confronted with the same rules expressed in the language of which he knows as yet nothing, and which he wants to learn? We are afraid that the results, which are poor enough already, as is generally admitted, might lead to deeper lamentations. Yet the book may well

be given a trial, for it contains elements of success, however diffident we may be as to the attainment of its praiseworthy aim.

(3) M. Näf's manual is "frankly one for the examination candidate." So much the better. The boy or girl who has to pass an examination must set about it in the most likely way. That is common sense; and, if parents want their children to be taught more philosophically, without working up for examinations, they must take their measures accordingly. For the present, a boy cannot get into the Army, Navy, or Civil Service without a sheer competitive examination, and it seems to us that Mr. Näf has produced a book admirably suited to the purpose so far as French is concerned. It includes passages for translation from and into French (not nearly enough of the latter), with many notes, hints, and questions, all carefully calculated for the object in view. There are also outlines of French history and literature, a selection of papers, and some common forms of commercial French.

(4) Mr. Payen-Payne's dictionary of French idioms has reached a second edition, and he has taken the opportunity of adding two or three hundred examples in an appendix.

(5) Miss Yersin and her sister (whose portraits precede their new French method) are ingenious and often happy. They struggle with the difficulties of French pronunciation in a novel and helpful manner, supplying pictures of a face engaged in the successful production of the various sounds. This also is happy: "For *in* you must smile, and for *an* you must look serious." But some of the directions are vague; for instance, "When the word 'plus' signifies 'more' the *s* is sounded, but when it signifies negation it is silent." The unfortunate thing is that it always signifies "more," and never signifies negation. However, the examples enable the student to pull himself together. We cannot recommend this book for schools, but it will assist a teacher or a self-teacher. It is printed separately in English and French, in the same volume.

(6) Professor Jullian introduces his extracts by a valuable essay of 128 pages on the French historians of the nineteenth century. His extracts, also, are freely annotated, so that he has spared no pains to make this volume comprehensive and compact. The selections are made from Chateaubriand, Thierry, Barante, Guizot, Thiers, Mignet, Michelet, Tocqueville, Quinet, Duruy, Renan, Taine, and Fustel de Coulanges. This is a welcome addition to Messrs. Hachette's "French Classics."

MATHEMATICS.

(1) *Applied Mechanics.* By Professor J. Perry, M.E., D.Sc., F.R.S. (Cassell.) (2) *Exercises in Choice and Chance.* By W. A. Whitworth, M.A. (Deighton Bell.) (3) *The Elements of Number.* Part V. By Mrs. E. A. Sonnenschein. (Swan Sonnenschein.) (4) *Famous Problems in Elementary Geometry: The Duplication of the Cube, the Trisection of an Angle, the Quadrature of the Circle.* Translated from Professor F. Klein by Professors W. W. Beman and D. E. Smith. (Ginn & Co.) (5) *An Elementary Treatise on the Metric System of Weights and Measures.* By J. Hamblin Smith, M.A. (Longmans.)

(1) Professor Perry's "Applied Mechanics" forms a very complete and valuable treatise for the use of engineers. It contains the substance of lectures extending over a two years' course at the Finsbury Technical College. Although the aim of the book is essentially practical, a great deal of theory is included. The illustrations and diagrams are extremely abundant; and the engineer will find it an interesting, comprehensive, and authoritative guide to his work.

(2) Mr. Whitworth's book consists of solutions, or hints for the solution, of seven hundred questions in Probability, including all the examples given in his well-known work on "Choice and Chance." There are two introductory chapters, the first on the summation of certain series by considerations of probability, and the second consisting of a Gresham Lecture delivered on April 20, 1893. The lecture discusses a number of interesting questions and elementary principles of estimating probability. We are glad to see that Mr. Whitworth agrees with Professor Chrystal in denouncing the "Rule of Succession," when stated in the following terms:—"If the probability of an event is entirely unknown and it has been observed to happen n times in succession, the chance that it happens the next time is $(n+1)\div(n+2)$." Mr. Whitworth, however, proceeds to argue that the rule is applicable in certain cases, such as in a succession of trials of skill. He gives the example of an archer shooting at a target and hitting the bull's-eye five times in succession, and says that, *if we deemed it an even probability before he began to shoot that he would hit the bull's-eye in any trial*, we must now estimate the probability at $\frac{6}{7}$. In the words italicised, however, he clearly defeats his own argument, for he assumes the general probability of the event to be known beforehand, while the rule as stated expressly supposes it to be unknown; and it is an absurdity to assume the probability as even if no data exist for estimating it.

(3) Mrs. Sonnenschein's volume is adapted to the needs of pupils in Standard IV. It consists of examples in reduction, addition, subtraction, multiplication, and division of length, time, capacity and weight.

(4) This excellent translation of Klein's notable work will afford to English-speaking mathematicians a concise account of the difficulties surrounding the three famous problems which are specified in the title. In fact, it succeeds in showing, in the course of its 80 pages, that these problems, as geometrical constructions, are impossible by straight-edge and compasses. It is particularly interesting, also, in its bearing on Question 13639 of our Mathematical Section, a solution of which is partially given in our present number, since it mentions the relation of the roots of a cubic equation to measurements taken from the apices of an equilateral triangle inscribed in a circle. The application, however, is different, though forcible for the purpose in hand. In addition to the three specified problems, there are several others handled in this volume, in which a construction is possible. Thus, a chapter is devoted to the construction of the regular polygon of seventeen sides, and also to several algebraic constructions, by the aid not only of conics, but of such curves as the cissoid and the conchoid, which the ancients used for solving the above-mentioned problems. The second part of the book is devoted to transcendental numbers and the construction of π.

(5) Since the Act of Parliament was passed to legalize the use of the metric system for the purposes of trade, we have had various treatises on the metric tables, some of them enunciating the bare first principles, and others adding numerous illustrations and examples. Mr. Hamblin Smith's volume occupies about a hundred pages, and includes all that is necessary. It is thoroughly adapted for school use; but we should have preferred to see the tables collected together in the opening of two pages.

MISCELLANEOUS.

The Early Life of Our Lord. By the Rev. J. Brough, M.A. (John Murray.)

Mr. Brough, Chaplain to the Forces, attempts in this volume to realize the boyhood of Jesus, by adding to the meagre records of Scripture the necessary truths and legitimate inferences from his race, age, and time of life. "The main sources of knowledge," he tells us, "are the Hebrew Scriptures, the Gospels, the works of Josephus, and the Talmud, and the present condition of the Holy Land." The plan is fair enough, and the result is satisfactory. This is a thoroughly good book.

An Advanced History of England, from the Earliest Times to the Present Day. With Maps and Plans. By Cyril Ransome, M.A. (Rivingtons.)

We have more than once commended Mr. Ransome's "History" as well-written, comprehensive, and adequate to the needs of the serious student. If it has not picked itself out as being specially conspicuous for its literary style, it has been thoroughly recognized and approved as a work of great merit and value. We are glad to welcome it again in a third edition.

Historic Ornament: a Treatise on Decorative Art and Architectural Ornament. By James Ward. (Chapman & Hall.)

Mr. Ward has speedily followed up his first volume on Historic Ornament by its promised sequel. In the volume now published he deals in particular with decorations on pottery, enamels, ivories, metal-work, furniture, textile fabrics, mosaic, glass, and book covers. Three hundred and seventeen illustrations suffice to give us a good historical view of the development of the decorative arts as applied to furniture and ornamental designs. Mr. Ward has drawn largely upon the treasures at South Kensington, as well as from other sources, and his two volumes taken together constitute an historic album of design and decoration which will be of great and durable value to the student.

Brushwork. By Marion Hudson. Part I. (Newmann.)

This is a graduated course of typical lessons in accordance with the syllabus of the Science and Art Department. Since Mr. E. Cooke originally demonstrated how much can be done by the young painter on the simple basis of brush manipulation, a considerable advance has been made in elementary art teaching. This volume illustrates both the method and the advance in a very satisfactory manner.

How to Draw from Models and Common Objects. By W. E. Sparkes. (Cassell.)

Mr. Sparkes has given us in this little book a practical manual on geometrical perspective as applied to common objects. Both his text and his forty-four plates are very helpful, and in the hands of a good teacher they may be made subservient to the creation of correct and fruitful notions in the mind of the learner.

The People's Select Cyclopædia. By Charles Nisbet. (Hodder & Stoughton.)

Here we have in a small receptacle a salad of small facts—historical, geographical, physiological, economical, literary, social, arithmetical, and sporting. It is a wilderness of detail, with nothing but a four-page index for a clue: yet for casual reading it is undoubtedly interesting.

Stray Thoughts for Reading. By Lucy H. M. Soulsby. (Longmans.)

Miss Soulsby apologizes in her preface, as by her title, for "discursiveness of subject and slightness of treatment." Her little essays are somewhat on the high-school reading-society level, but they are very pleasant reading, none the less.

German Lyrical and Other Poems, with Isometrical Translations. By H. Campbell Galletly. (Williams & Norgate.)

An excellent selection of German lyrics, from Goethe and Schiller to

poets of the last generation, with good metrical versions in English on the opposite pages. This is a thoroughly educational little book.

Kindergarten Bible Stories. By Gladys Davidson. (Newmann.)

We notice that in this volume of stories from the Bible the epithets most commonly used are *dreadful* and *wonderful*. There was "a dreadful storm," Paul was "dreadfully frightened," the stones with which Stephen was stoned "hurt dreadfully"; we hear a good deal about "wonderful sights," "wonderful miracles," and are sometimes asked, after a story, "Wasn't that wonderful?" We doubt whether it is desirable that the first impressions little children get of religious teaching should be connected with the marvellous and the terrible. In attempting to be vivid and interesting the writer appears to have failed to observe that the true end of Bible stories is to plant some little seed of moral truth or tender feeling that may presently bear fruit an hundredfold in conduct, and not to appeal merely to the imagination by a series of highly-coloured wonders.

The Work of the Infants' School: Hints to Teachers. By A. Hawcridge. (Newmann.)

Mr. Hawcridge is Superintendent of Schools to the Barrow-in-Furness School Board. His book is "a compendium of school method," "the outcome of the observation and consideration of the work of English elementary schools during a series of years." Its object is to present a clear view of the principles that underlie successful work in the infants' school, and to indicate the best methods in which these can be applied so as to remedy the lack of continuity and consequent waste of energy that now sometimes occur. The author modestly disclaims originality; he has, however, produced a useful and indeed a charming book. His wide reading and experience, combined, it may be added, with much practical good sense, have enabled him to write a brief treatise on method such as will help many a young teacher struggling with the initial difficulties of the task. The subjects of reading, writing, number, form, and colour are treated at length, with many specimen lessons and diagrams.

Perhaps the most interesting chapters are those on the use of pictures and stories and on object-lessons, in the latter of which are suggested some simple experiments, such as the making of butter in a soda-water bottle. The important questions of how to choose a story, how to tell it, and what use to make of it afterwards, are all suggestively and sensibly dealt with. There is much value, for instance, in the plea for the training of the faculty of humour. "What have these children not lost through the failure to train this faculty?"

The Story of Lancashire. (Edward Arnold.)

Another very readable volume of a series already noticed by us. It is a gossipy collection of stories and poems about Lancashire, its physical features and manufactures, chief towns, eminent men, and interesting historical events, especially battles. There are many pictures, which, with the exception of some of the portraits, are well executed.

Sanitary and Social Questions of the Day. (The Cotton Press.)

The educational papers in this bright little volume are original. The questions raised are treated from the physiological point of view. For instance, the essay on the importance of singing as a means of promoting health of body and mind may be commended to the authorities of the many secondary schools where singing is not taught. The use of the birch is commended on the ground that its application to the skin is a far more direct appeal to the brain than any appeal through sight or hearing. "Therefore our forefathers were on the right road when they said, 'to make an impression on a boy's mind you must act on his skin!'" and again: "Look at a boy. If he ardently wishes to know a thing, he will endeavour to feel it, touch it. There are occasions when, if you wish to make a boy thoroughly understand a thing, you must touch *him*—preferably with a birch."

A First Book in Writing English. By E. H. Lewis, Ph.D. (Macmillan.)

Among the recent educational books that have come to us from America this appears to be one of the very best. The author is a Professor of English in Lewis Institute, and in the University of Chicago. If we had not been informed that his book had been composed for his own classes, we might have guessed it, for every page shows that it is the work of a practical teacher who is able to combine a wide knowledge of the theory of composition and a cultivated taste with remarkable ingenuity and practical resource. The method is inductive; the young student is confronted with a number of problems in both composition and diction, and is helped to form his own generalization. After preliminary chapters on reading aloud (the help of which as a means to correct composition is fully recognized), spelling and punctuation, Professor Lewis deals with the grammatical principles most commonly violated by young students, *e.g.*, the concord, adjective and noun, pronoun and antecedent, and grammatical government generally. He then proceeds to the difficult art of building up the sentence, starting from the larger unit, the paragraph, and dividing downwards. "The sentence," he says, "is not its own master; it is the servant of the paragraph." These chapters on sentence unity and paragraph construction, accompanied as they are by many varied exercises both written and oral, are most suggestive and helpful. Other chapters, on the organization of the theme, on the choice of words and the means of getting a full vocabulary, on letter-writing and other matters, are also very well done.

Old Harrow Days. By J. G. Cotton Minchin. (Methuen & Co.)

Mr. Minchin's reminiscences of Harrow belong to a category of books which are not rare in connexion with our public schools; but it is a very good one of its kind. Old Harrow boys will be delighted with it, and with the original sketches by Miss Holms. It is more for them than for the general reader, but still it is interesting from any point of view; and of course it has a good deal to say about some of the greatest men of the century.

Harbutt's Plastic Method, and the Use of Plasticine. (Chapman & Hall.)

Plasticine is a new substitute for wax or clay, introduced by Mr. Harbutt, of Bath, through Messrs. Chapman & Hall. Judging from a sample supplied to us, it appears to be very ductile, sensitive, and clean to work with. Mr. Harbutt gives us a practical book of copies and directions for the use of the material in writing, drawing, and modelling.

The Irish Difficulty, Shall and Will. By Gerald Molloy, D.D., D.Sc. (Blackie.)

A whole volume devoted to "shall," "will," and "shall-and-will-iana"! It would be cruel to suggest that Dr. Molloy could have occupied much of the time spent in writing this book to better purpose. He must have given years to the multiplication of his precepts and examples. Certainly Irishmen seem to need a good deal of hammering on the subject.

Elementary Drawing, a Series of Practical Papers for Beginners. By Elisabeth Moore Hallowell. (New York: The Macmillan Company.)

Miss Hallowell writes not so much for young beginners as for grown people who have a natural taste for drawing, and who want to add a little theory to their gift. So she discourses on perspective, on the horizon, the vanishing of lines, one-point and two-point perspective, sketching and shading; and she discourses clearly and sensibly. This is just the kind of book which would suit an amateur.

An Archæological Survey of Herefordshire, including Introduction, Indices, and Maps. Mediæval Period. By James Davies and the Rev. J. O. Bevan, M.A. (Hereford: Jakeman & Carver.)

Messrs. Davies and Bevan have deserved well of historical students and antiquaries by their careful survey and topography of Herefordshire in the mediæval period. It is a work of considerable utility as well as interest, and we fear that it has been a labour which can look for no substantial reward beyond the credit of having done a good thing well. A series of such studies for all the counties in England, or at any rate for a group of counties, would provide excellent material for the historian, and valuable assistance in the elucidation of our earlier historical records. The sale of such a work may not be large, but it should be steady, and, like the little fishes, sweet, for every purchaser may be looked upon as an appreciative scholar. We hope that the editors may see their way to extend their survey over the neighbouring counties.

The Centuries: a Chronological Synopsis of History on the "Space for Time" Method. (West, Newman, & Co.)

This is a second edition, revised and enlarged, of a useful book of reference for historical students. It has been compiled with much industry, and mostly from good authorities. It is fairly enough described as a "skeleton conspectus of general history," and is bound up with alternate blank pages, so that a student who likes to "revise and enlarge" his reference-books will find it very convenient for the purpose. Gaul, by the way, was not fully "in possession of the Franks" under Clovis, nor was Paris "made the capital of the Frankish dominions" in his time.

A Primer of the Bible. By Professor W. H. Bennett, M.A. (Methuen.)

Mr. Bennett studies and treats of the Bible as a documentary monument. He gives us its history as a literary product, in the light of recent criticism, with the structure and mutual relations of the several books, and the literary history, as it were, of the people of Israel. This is an excellent method in itself, and it is here pursued with much discrimination and success. The author has adapted his scholarship to the needs of the intelligent student of the Bible in such a manner that it is not only readable in itself but also a good introduction to Biblical criticism.

The Illustrated New Testament. (Nelson & Sons.)

This is a very handy, well-printed, freely illustrated New Testament in the revised English version. The many pictures constantly elucidate the text, and, wherever *pater-familias* has not inherited his father's belief in, and reverence for, a big "family" Bible, this presentable small quarto will serve his purpose admirably.

A Digest of Inductive Logic for the Use of Students. By Johnson Barker, B.A. (Methuen.)

Mr. Barker modestly calls his little book of a hundred and fifty pages a note-book, intended to be used side by side with "the ordinary

manual." In point of fact, the book is a student's summary of the ordinary manual, and, as such, it will have its distinct uses. All but a few of the most gifted students ought to make their own summaries of treatises on definite subjects; but by no means all will do it. In plain terms, Mr. Barker provides a serviceable cram-book of Logic.

We have received the following publications:—

Amongst texts with notes, we have *Johnson's Lives of Prior and Congreve*, by F. Ryland, M.A. (Bell's "English Classics"); *Macaulay's Lays of Ancient Rome*, by W. T. Webb, M.A. (Macmillan); *King Lear*, by A. W. Verity, M.A. (Cambridge Pitt Press "Shakespeare for Schools"); *Hamlet*, by the Rev. F. Marshall, M.A. (Gill & Sons); and *The Merchant of Venice*, by Stanley Wood, M.A. (Heywood).

Manual of Drill and Physical Exercises, by Thomas Chesterton, illustrated from photographs (Gale & Polden)—a revised edition.

A Handbook to accompany Bacon's Chart of British Birds and Natural History Pictures (Bacon).

Bookkeeping, with some Chapters on Business Usages (Iliffe's "Nutshell Series").

Bacon's "Excelsior" Drawing Test Cards, Plane Geometry for Standard VII. (Bacon)—clear well-sorted copies, with key.

Scenes of English Life: Lessons in English on the Series Method (Psychological Method of Teaching Languages), Book I., Children's Life, by Howard Swan and Victor Bétis (Philip & Son)—a somewhat vague book, which seems to us to create as much difficulty as it overcomes.

The English Language, its History and Structure, by W. H. Low, M.A. (Clive)—a fourth edition, revised, of Mr. Walter Low's compact and serviceable work.

Practical Building Construction, a Handbook for Students Preparing for the Examinations of the Science and Art Department, &c., by John Parnell Allen (Crosby Lockwood)—a second edition, revised, with over 1,000 illustrations.

Notes and Formulæ for Mining Students, by J. H. Merivale, M.A. (Crosby Lockwood)—a fourth revised edition, by H. F. Bulman, of a valuable technical manual.

Promotion Test Cards in Arithmetic, Scheme B, Standards III. and IV. (Macmillan).

McDougall's Practical Plane Geometry, Standard VII. (McDougall)—adapted to the requirements of the Code.

The "Excelsior" Memory-Map, Atlas, and Text-Book Combined (Bacon)—a new and enlarged edition of this convenient volume, in which every map is faced by a page of text, on the country, sea, or river-basin depicted.

LITERARY GOSSIP.

The remarkable volume of "Hope Reports" which the Hope (Zoology) Professor, following the example of the Linacre Professor, has just put into private circulation, deserves a wider publication. It is the record of a great deal of valuable work done in the past and the promise of much more for the future. Professor Poulton's career and work, as the *Oxford Magazine* says, are the more interesting and satisfactory to Oxford men in that he has worked up his discoveries, if he has not made them, during a continuous residence in Oxford, and is one of those not so rare among us as formerly who have shown that a man of science need not leave college and University life to win world-wide reputation.

Great satisfaction was expressed at Oxford with Professor Herford's Taylorian Lecture on "The Influence of Goethe's Italian Journey upon his Style," delivered at the Taylor Institution on November 18.

The grant recently made to the curators of the Ashmolean Museum at Oxford has secured the preservation of a number of interesting portraits which were rapidly perishing by neglect. Some of our readers may call to mind that the collection consists of above forty pictures mainly collected by the two Tradescants between 1600 and 1662, together with a few added by Elias Ashmole when he presented the Museum to the University in 1683, under conditions which were described not long ago in an article contributed by Professor Foster Watson to the *Educational Times*.

The popularity of the Lecture, which has lately been revived in this country, has led to a curious development. The *Academy* says that a committee of influential residents in Holland has arranged with a London lecture agency for a number of English lecturers to visit Amsterdam, Rotterdam, The Hague, and Arnhem during the winter. Those who have already been invited are Mr. Zangwill, who will speak on "The Ghetto," Max O'Rell on "John Bull," and Mr. Kerr on "Wireless Telegraphy." Education should have a turn in such a series of lectures.

MATHEMATICS.

4680. (Professor Burnside, M.A.)—(1) Determine the degree of the locus represented by the equation

$$\alpha^2/p^2+\beta^2/p_1^2+\gamma^2/p_2^2-2(\beta\gamma/p_1p_2)\cos A$$
$$-2(\gamma\alpha/p_2p)\cos B-2(\alpha\beta/pp_1)\cos C=1,$$

where α, β, γ are the distances of any point from the vertices of the triangle ABC, and p, p_1 p_2 the perpendiculars of the same triangle.

(2) Show that the curve given by the above equation is the same as that referred to by Professor Cayley in Quest. 2110, which is as follows:—Prove that the locus of the foci of the parabolas which pass through three given points is a unicursal quintic curve passing through the two circular points at infinity.

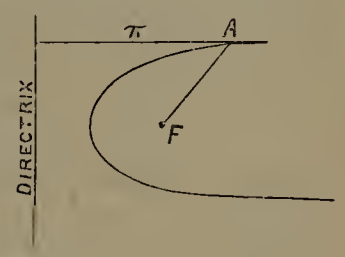
Solution by Professor Sanjána.

(1) If the sides of the pedal triangle be d, e, f, corresponding to α, β, γ respectively, we have $\alpha/p=(d\operatorname{cosec}A)/p=Rd/\Delta$, where R and Δ have the usual meanings with regard to the triangle. Hence the equation given becomes $d^2+e^2+f^2-2ef\cos A-2fd\cos B-2de\cos C=\Delta^2/R^2$,

which, since $d=(y^2+z^2+2yz\cos A)^{\frac{1}{2}}$, &c.,

will, when rationalized, give an equation of the eighth degree in trilinears. If the angles of the pedal triangle be D, E, F respectively, the equation can also be written thus: $\Sigma ef\cos A=\Sigma ef\cos D$.

(2) This does not readily follow. It would seem that the equation of the eighth degree has a cubic factor.



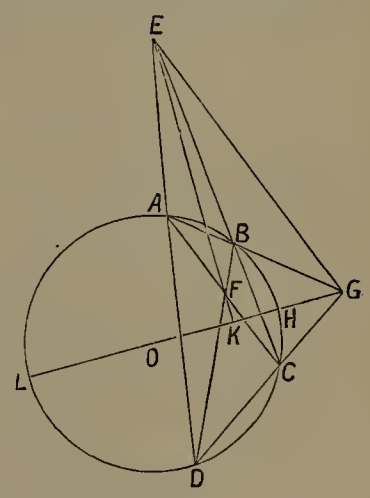
[The Proposer makes the following remarks:—"There is an identical relation connecting the perpendiculars from A, B, C to the directrix (any line what ever), or connecting FA, FB, FC or α, β, γ in question. The identical relation in general is

$$(1,\ 1,\ 1-\cos A-\cos B-\cos C)$$
$$(\pi/p,\ \pi_1/p_1,\ \pi_2/p_2)^2=1,$$

π, π_1, π_2 the perpendiculars from A, B, C on the line.]

13619. (W. E. Jeffares, B.A.)—Prove that the circle described on the distance between the double points of the involution determined on any line by the sides of a quadrilateral inscribed in a circle cuts this circle orthogonally, and show that the circle on the third diagonal cuts orthogonally the same circle.

Solution by Rev. J. Cullen, B.A.; L. E. Reay, B.A.; *and others.*



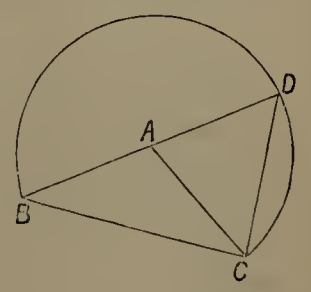
The double points are harmonic conjugates of any pair of homologous points of the involution, also the circle circumscribing the quadrilateral passes through an homologous pair. Hence the first part of the question, since the circle described on the distance between two points cuts orthogonally any circle passing through their harmonic conjugates.

Now, by a known theorem, EK is the polar of G, and is therefore perpendicular to the diameter through G. Hence the circle described on EG passes through K; also (LKHG) is harmonic. Therefore, &c.

13539. (Morgan Brierley.)—Given the vertical angle, the sum of the sides including it, and the radius of the inscribed circle, to construct the triangle.

Solution by Rev. T. Roach, M.A.; W. E. Jeffares, B.A.; *and others.*

Since $r/\tan\frac{1}{2}A=s-a=\frac{1}{2}(b+c-a)$,



therefore a is known, and the problem reduces to the well-known geometrical one—"Given base, sum of sides, and vertical angle, construct the triangle."

On BC, or a, as base, describe a segment containing angle $\frac{1}{2}A$.

Let radius BD $=b+c$,

and make DCA = BDC.

Then BAC is the triangle.

13552. (Professor A. Droz-Farny.)—Soient Δ et Δ' deux cercles de centres O et O′ et se coupant en A et B. Une transversale variable menée par A coupe Δ en α et Δ' en α'. La parallèle menée par α à O′A coupe Δ en β, et la parallèle menée par α' à OA coupe Δ' en β': (1) Les

trois points A, β, β' sont en ligne droite; (2) si les droites $\alpha\beta$ et $\alpha'\beta'$ se coupent en P, quel est le lieu de ce point?

Solution by F. H. PEACHELL, B.A.; W. J. DOBBS, M.A.; *and others.*

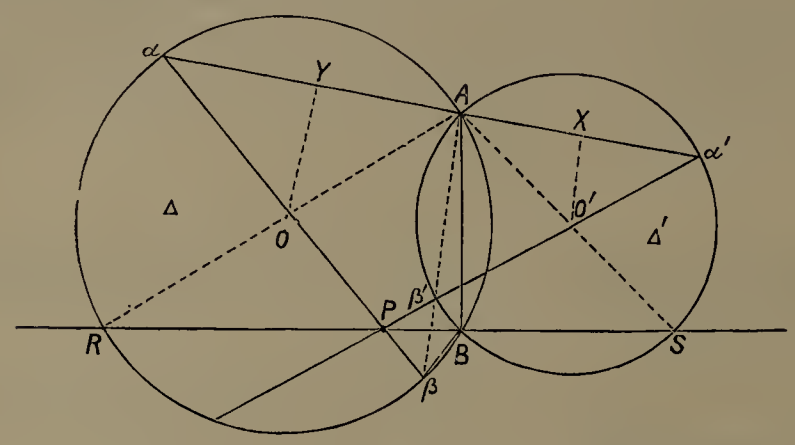
1. By parallels $\angle \alpha'\beta'A = OA\beta' = \frac{1}{2}\pi - AR\beta$ (for $A\beta R$ is in semicircle)

$$= \tfrac{1}{2}\pi - \angle A\alpha\beta = \tfrac{1}{2}\pi - O'A\alpha' \text{ (by parallels)}$$

(O'X is drawn perpendicular from O')

$$= AO'X = \tfrac{1}{2}\angle AO'\alpha';$$

therefore β' lies on circle Δ'.



[The rest in Volume.

13511. (R. CHARTRES.)—A circle passes through FERMAT's point of an isosceles triangle and touches the base; find (1) the locus of its centre, and (2) the mean value of the circles.

Solution by the PROPOSER.

Let F be FERMAT's point,

$$FD = p = \tfrac{1}{6}(a\sqrt{3}),$$

(x, y) the coordinates of centre K.

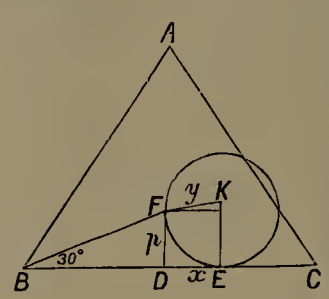
(1) Then $y^2 = x^2 + (y-p)^2$;

therefore the locus is a parabola.

(2) The mean value of the circle

$$= \frac{2\pi}{a}\int_0^{\frac{1}{2}a} y^2 . dx = \frac{\pi}{2ap^2}\int_0^{\frac{1}{2}a} (x^2+p^2)^2 . dx$$

$$= \frac{\pi a^2}{10}.$$



13389. (G. N. BATES.)—Prove that, if in Quest. 13332 the line AF is divided into n parts, the rest of the construction being the same,

$$AG^2 = R^2\{n^2+4n+16-(n-4)(n^2+16n-32)^{\frac{1}{2}}\}/2(n^2-2n+4).$$

Solution by Rev. J. CULLEN, B.A.

$$AG = 2R\sin\theta;$$

$$\therefore\ AG^2 = 2R^2(1-\cos 2\theta)$$

$$= 2R^2\{1-\cos(\phi-\psi)\} \quad \ldots (1).$$

Also, since $AH = 4R/n$,

$$OH = R(n-4)/n;$$

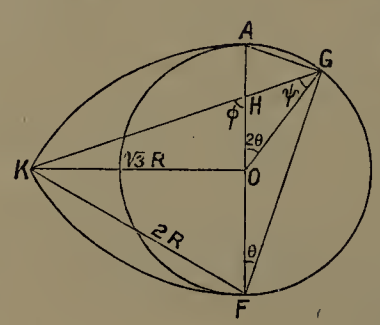
$$\therefore\ \sin\phi = \sqrt{3}n/2(n^2-2n+4)^{\frac{1}{2}},$$

$$\cos\phi = (n-4)/2(n^2-2n+4)^{\frac{1}{2}},$$

and $\sin\psi/\sin\phi = OH/OG = (n-4)/n$.

$$\therefore\ \sin\psi = \sqrt{3}(n-4)/2(n^2-2n+4)^{\frac{1}{2}},$$

$$\cos\psi = (n^2+16n-32)^{\frac{1}{2}}/2(n^2-2n+4)^{\frac{1}{2}}.$$



Whence, substituting in (1), we have the result in the question.

13509. (W. E. JEFFARES, B.A.)—Find the complete solution of

$$\{(x-\beta+\gamma)(\beta+\gamma-2\alpha)\}^5 + \{(x-\gamma+\alpha)(\gamma+\alpha-2\beta)\}^5 + \{(x-\alpha+\beta)(\alpha+\beta-2\gamma)\}^5 = 0.$$

Solution by L. E. REAY, B.A.; Professor SANJÁNA; *and others.*

Put $\alpha-\beta = A$, $\beta-\gamma = B$, $\gamma-\alpha = C$, and the equation becomes

$$(x-B)^5(C-A)^5 + (x-C)^5(A-B)^5 + (x-A)^5(B-C)^5 = 0.$$

This obviously vanishes for values A, B, and C of x. Let the remaining two roots be ϕ and ψ. Coefficient of

$$x^5 = \Sigma(B-C)^5 = 5(C-A)(A-B)(B-C)\{\Sigma A^2 - \Sigma BC\}$$

$$= -5(C-A)(A-B)(B-C)(3\Sigma BC),$$

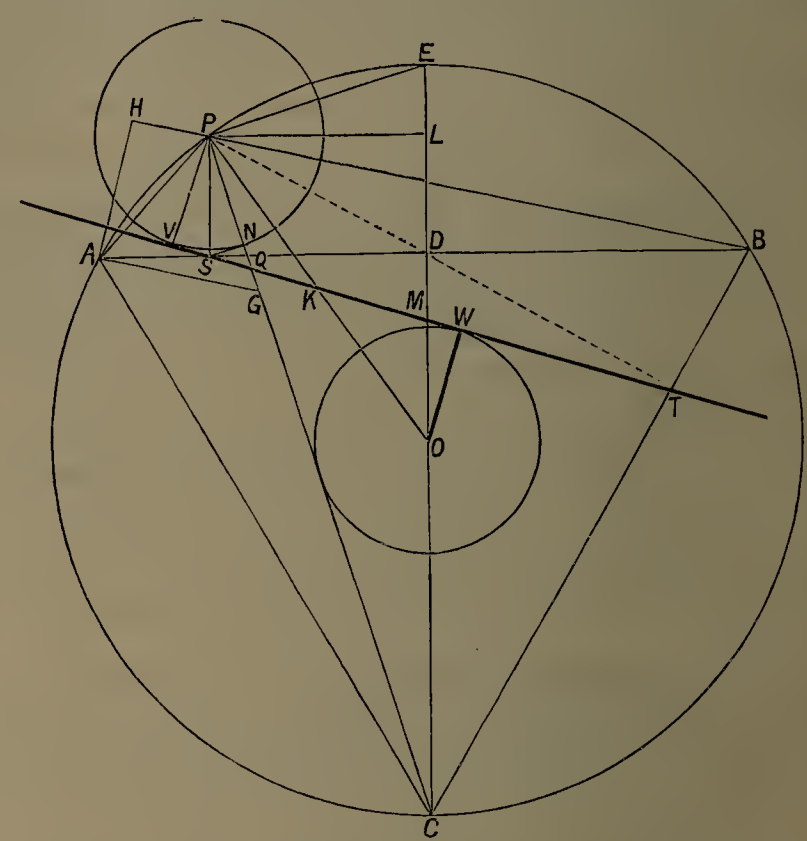
since $A+B+C = 0$.

[The rest in Volume.]

13639. (D. BIDDLE.)—If P be a point on the circumcircle of ABC, an equilateral triangle of side a, and if l be its perpendicular distance from the SIMSON-line drawn in respect of it (in the case of an equilateral triangle, any such SIMSON-line is equidistant from P and O the centre), prove that PA, PB, PC represent in length the three roots of the cubic equation $x^3+qx+r = 0$, when $q = -a^2$ and $r = \pm 4R^2 l = \pm\frac{4}{3}a^2 l$. [All cases irreducible by CARDAN's method—that is, all cases having three real roots—are included herein; for, if the value of q be supposed fixed, r can range from 0 to $\pm 2(-\frac{1}{3}q)^{\frac{3}{2}}$, whilst the three roots of the equation respectively range from 0 to $(-\frac{1}{3}q)^{\frac{1}{2}}$, from $(-q)^{\frac{1}{2}}$ to $(-\frac{1}{3}q)^{\frac{1}{2}}$, and from $(-q)^{\frac{1}{2}}$ to $2(-\frac{1}{3}q)^{\frac{1}{2}}$; two of them being of one sign, and the third of the opposite. But the finding of P, when a and l alone are given, would appear to involve the trisection of an angle.]

Solutions (1) *by the* PROPOSER, (2) *by* Professor A. DROZ-FARNY.

(1) Let x_1, x_2, x_3 be the three roots of the given equation. Then we have $x_1+x_2+x_3 = 0$, whence $x_3 = -(x_1+x_2)$; $x_1x_2+x_1x_3+x_2x_3 = q$, whence



$x_2 = \pm(-q-\frac{3}{4}x_1^2)^{\frac{1}{2}} - \frac{1}{2}x_1$; and $x_1x_2x_3 = -r$, whence $(q+x_1^2)x_1 = -r$.

Therefore, disregarding the signs of the roots, and taking $AB^2 = -q$, we have to prove (i.) that $PA+PB = PC$;

(ii.) that $PB = (AB^2-\frac{3}{4}PA^2)^{\frac{1}{2}} - \frac{1}{2}PA$; (iii.) that $PA . PB . PC = \frac{4}{3}AB^2 . l$.

[The rest in Volume.]

Note on Question 4329. *Tests for higher powers of* 2. *By* Lt.-Col. ALLAN CUNNINGHAM, R.E.

I have compared Mr. K. S. PUTNAM's newly computed value of 2^{721} with Mr. SHANKS's (published in 1853), and find them *in exact* agreement. This is the best test possible.

All the various "tests" proposed—viz., division of $(2^{731}-1)$ by $127 = (2^7-1)$, and by $(2^{103}-1)$, or of $(2^{720}-1)$ by its numerous known small divisors—besides being merely *negative* tests, have, with the exception of "casting out the nines," the disadvantage of involving the labour of *actual division* of these large numbers. The following "tests," analogous to "casting out the nines," are much simpler, in not involving heavy divisions. [The rest in Volume.]

Note on the Factorization of $(2^{720}-1)$. *By* Lt.-Col. ALLAN CUNNINGHAM, R.E.

The number $N = (2^{720}-1)$ may be more completely resolved into its *prime* factors than in the results given in the solution of Quest. 4329, on page 26, Vol. LXVIII. The simplest plan (to avoid missing any small factors) appears to be to resolve N into its obvious algebraic factors, and then resolve them separately.

Thus $N = (2^{45}-1)(2^{45}+1)(2^{90}+1)(2^{180}+1)(2^{360}+1)$.

Now, by help of the tables on pages 4, 5 of ED. LUCAS's paper "Sur la Série récurrente de FERMAT," Rome, 1879, there may be deduced

$$(2^{45}-1) = 7 . 31 . 73 . 151 . 631 . 23{,}311,$$

$$(2^{45}+1) = 27 . 11 . 19 . 331 . 18{,}837{,}001,$$

$$(2^{90}+1) = (25 . 109 . 181 . 1321 . 54{,}001) . (13 . 37 . 41 . 61 . 29{,}247{,}661).$$

[The rest in Volume.]

13648. (R. F. DAVIS, M.A.)—Resolve 1,000,000,000,004 into factors.

Solutions by (1) JOSEPH BLATER; (2) Lt.-Col. ALLAN CUNNINGHAM, R.E.; C. E. BICKMORE, M.A.; *and* H. W. CURJEL, M.A.

(1) Using the "Table of Quarter-Squares of all Whole Numbers from 1 to 200,000," by JOSEPH BLATER (London: Trübner, 1888), results are

most readily reached when the two factors to be found are not very far removed from the square root of the given number.

The number in question divided by 4

$= 250,000,000,001$ to which the nearest quarter-square is $250,001,000,001$ with argument $1,000,002$

and the remainder $1,000,000$ has for argument $2,000$

and then the half-sum $= 1,002,002 : 2$

half-difference $= 998,002 : 2$;

501,001 is a prime,

$499,001 = 17 \times 149 \times 197$;

therefore $1,000,000,000,004 = 2 \times 2 \times 17 \times 149 \times 197 \times 501,001$.

The rest in Volume.]

13643. (R. Knowles, B.A.)—Prove that

$$+(n+1)x+(n+2)(x^2/1.2)+(n+3)(x^3/1.2.3)+\ldots=(x+n)\epsilon^x-(n-1).$$

Solution by G. M. Grace, B.A., B.Sc.; Professors Savage *and* A. Droz-Farny; *and many others.*

The given expression

$$= n\left[1+x+(x^2/2!)+\ldots-1\right]+1+x+x^2+(x^3/2!)+\ldots$$
$$= n(\epsilon^x-1)+1+x\epsilon^x=\epsilon^x(n+x)-(n-1).$$

[The rest in Volume.]

13606. (Professor Neuberg.) — On considère les paraboles qui touchent une droite donnée a en un point donné A et dont la tangente au sommet passe par un point donné B. Trouver l'enveloppe de l'axe.

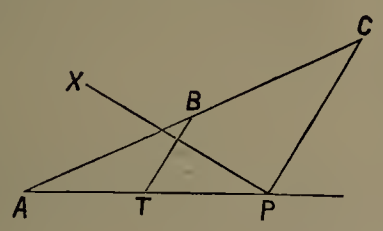
Solutions (1) *by* H. W. Curjel, M.A., *and others*; (2) *by* Professor A. Droz-Farny.

(1) Let PX be the axis cutting the tangent ATP at A in P, and let BT be the tangent at the vertex. Then

AT = TP,

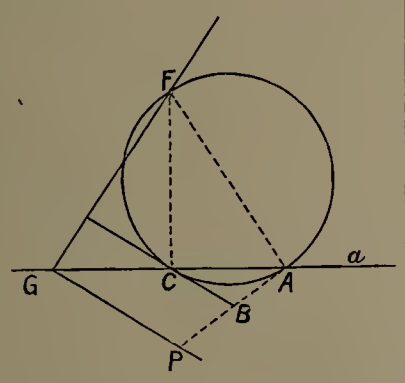
and the perpendicular to PX at P cuts AB at a fixed point C such that

AC = 2AB;



therefore envelope of PX is a parabola with focus C and tangent at vertex AP.

(2) Soit BC la tangente au sommet d'une des paraboles. ACC pouvant être considéré comme un triangle aplati circonscrit à la parabole, le foyer F de cette dernière se trouvera sur la circonférence passant par A et tangente en C à BC; en outre le foyer se trouve sur la perpendiculaire élevée en C sur AC. Il suffira pour obtenir l'axe de cette parabole d'abaisser de F une perpendiculaire sur BC. Comme angle ACB = AFC = CFG il résulte CG = CA.



La parallèle menée par G à CB coupera AB au point fixe P symétrique de A par rapport à B.

L'enveloppe cherchée est donc une parabole ayant a comme tangente au sommet et P comme foyer.

13656. (Rev. T. Mitcheson, B.A.)—Let ABC be a triangle whose side BC is produced to D, and bisect BAC and ACD by lines meeting in E. Describe a circle about ACE, and let it cut BC in F. The bisector of FBA passes through the centre of the circle.

Solution by E. P. Barrett, B.A.; Professor A. Droz-Farny; *and many others.*

The figure explains itself.

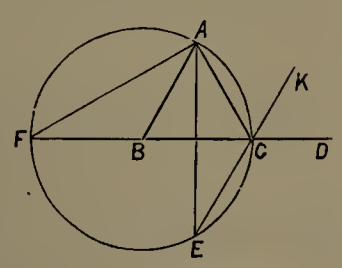
$\frac{1}{2}(A+B) = \angle KCD = FCE$

$= \angle FAE$

$= \frac{1}{2}A + \angle FAB$;

therefore $\angle FAB = \frac{1}{2}B$,

and therefore $= \angle AFB$,



whence the bisector of B is the perpendicular bisector of AF, and therefore passes through the centre of the circle.

[Mr. Curjel solves the equation as follows:—

E is clearly one of the ex-centres. Let G be the ex-centre within $\angle ACB$. Then $\angle GCE$ = a right angle = $\angle GAE$;

therefore GE (*i.e.*, the bisector of $\angle ABF$) is a diameter of $\odot ACE$.]

11364. (R. Knowles, B.A.)—PQ, CD are the common chords of a circle and conic; T is the pole of PQ with respect to the conic; R, R′ are the points through which pass all chords of the conic which subtend a right angle at C, D respectively; prove that RR′ is bisected by the diameter of the conic through T.

Solution by H. W. Curjel, M.A.

Since the locus of the Frégier point R is a homothetic concentric conic, and OC, OR (O being the centre) are equally inclined to the axes (or in case of a parabola C and R are equally distant from the common axis of the given parabola and the locus of R, which is an equal parabola), therefore PQ and RR′ are parallel, and are therefore both bisected by the diameter through T.

QUESTIONS FOR SOLUTION.

13691. (Professor Crofton, F.R.S.).—Find the mean area of a spherical triangle determined by three points taken at random on the sphere.

13692. (Professor Neuberg.)—On donne un paraboloïde elliptique

$$(x^2/a)+(y^2/b)=2z.$$

Trouver (1) l'équation de la surface engendrée par la développée d'une section plane parallèle au plan xy; (2) l'équation de la surface engendrée par la développée d'une section plane menée par l'axe des z.

13693. (The late Professor Wolstenholme, M.A., D.Sc.)—Having given the equations

$$\frac{(a+b)\cos\theta-(a-b)\cos\phi}{a\cos\alpha}=\frac{(a+b)\sin\theta-(b-a)\sin\phi}{b\sin\alpha}=\frac{2ab}{a^2\cos^2\alpha+b^2\sin^2\alpha},$$

prove that either $\theta=\alpha$, or $\phi=\alpha$, the angles being all between 0 and 2π.

13694. (Professor Rogel, LL.D.)—Prove the convergence of the series

$$R \equiv \sum_{z=2,3,\ldots}^{\infty} \frac{(lz)^p}{z^r} \quad (\infty > p > 0,\ r > 1).$$

13695. (Professor Burnside, M.A.)—Find the differential equation of all concentric conics.

13696. (Professor Sanjána, M.A.)—Prove that

$$\frac{1}{1}\cdot\frac{1}{4}+\frac{1}{2}\cdot\frac{1}{4.5}+\frac{1}{3}\cdot\frac{1}{4.5.6}+\frac{1}{4}\cdot\frac{1}{4.5.6.7}+\ldots=\frac{6\pi^2-7^2}{36};$$

and show how to find the value of

$$\frac{1}{1.n}+\frac{1}{2.n(n+1)}+\frac{1}{3.n(n+1)(n+2)}+\ldots,$$

where n is a positive integer.

13697. (Professor A. Droz-Farny.)—Soient AB et CD deux cordes fixes d'une circonférence, α le point milieu de AB et γ celui de CD. Si AB est bissectrice de l'angle CαD, CD sera bissectrice de l'angle AγB.

13698. (Professor H. Langhorne Orchard, M.A., B.Sc.)—Sum, to n terms, the series $0+4+18+48+100+180+294+\ldots$

13699. (W. J. C. Miller, B.A.)—Two points, taken at random, on the surface of a *sphere* are joined with each other, and with a third point, taken at random, either *within* or *on* the surface. Find the probability that the triangle thus formed will be *acute-angled.* Again, if one of the angular points of a triangle be at the *centre* of the sphere, and the other two be at two points, taken at random, either both *within* the sphere, both *on* the surface, or *one within*, and the *other on*, the surface, find, in each case, the probability that the triangle will be *acute-angled.*

13700. (D. Biddle.)—Construct the triangle, having given (1) the radii of the three circles inscribed to the corner-spaces left by the in-circle, (2) the perpendicular distances from the mid-points of the sides to the circumcircle.

13701. (Lt.-Col. Allan Cunningham, R.E.)—Factorize

$N_1 = 64,000,000,000,729$ and $N_2 = 729,000,000,000,064$.

13702. (W. J. Dobbs, M.A.)—A rectangle is bisected by a straight line. Show that, for different positions of the bisecting line, the locus of the centroid of one-half of the rectangle encloses an area equal to $\frac{5}{27}$ of that of the rectangle.

13703. (C. E. Bickmore, M.A.)—If $8m-3$ be a prime number, it is a factor of

$$2^{2m-1}+\frac{(4m-1)(4m-2)}{1.2}2^{2m-2}+\ldots+\frac{(4m-1)(4m-2)(4m-3)}{1.2.3}.2+(4m-1).$$

13704. (H. MacColl, B.A.)—Out of the $2n$ roots of n random quadratic equations with three real coefficients, each taken at random between a and $-a$, two roots x and y are taken at random. What is the chance that $x+y$ is real and positive?

[A full and detailed solution of this question is given by the Proposer in his Sixth Paper on "The Calculus of Equivalent Statements" in the *Proceedings of the Mathematical Society*, in order to show the working of his "Probability Notation"].

13705. (H. W. Curjel, M.A.)—Three conics α, β, γ are drawn through D, E, F, and β, γ cut again in A; γ, α in B; and α, β in C. A fourth conic, drawn through two of the points D, E, F, cuts α in G and H, β in K and L, γ in M and N. Show that, if the conics ADEFG, BDEFK, CDEFM meet in a fourth point, then the conics ADEFH, BDEFL, CDEFN also meet in a fourth point.

13706. (W. E. Jeffares, B.A.)—A triangle is formed by two tangents to a parabola and their chord of contact. Prove that the line joining the intersection of the tangents to the focus is the symmedian of this triangle, and, if produced to meet the circumcircle, will be bisected at the focus.

13707. (R. F. Davis, M.A.)—Resolve 382^4+1 into factors.

13708. (R. Knowles, B.A.)—Chords are drawn at right angles to each other through the vertex of a conic. Prove that the locus of the pole of the line through their other points of section is a right line perpendicular to the axis.

13709. (G. W. Preston, B.A.)—Construct a triangle, having given the base, the difference of the base-angles, and the sum of squares on the sides.

13710. (J. Woodcote West.)—Through three points A, B, C to pass three circles, each circle to pass through two points and intersect the other circles orthogonally.

13711. (R. W. D. Christie.)—Let 1/P, where P is any integer ending in the digit 1, 3, 7, or 9, have $r_1 r_2 \ldots r_p$ remainders, then

$$r_1 + r_2^q + \ldots + r_p^q = \mathrm{P}\,(\mathrm{M}),$$

where q may have *any* integral value from 1 to $p-1$.

Ex. gr.— $10^3+100^3+44^3+201^3+98^3+24^3+1^3 \equiv 293\,(\mathrm{M})$,

and where, instead of the index 3, we may insert 1, 2, 4, 5, or 6 (but not 7).

13712. (W. C. Stanham, B.A.)—If the centroid of a triangle is a fixed point, (*a*) its angular points lie on a fixed conic if its sides touch a fixed conic, (*b*) its sides touch a fixed conic if its angular points lie on a fixed conic.

13713. (Rev. T. Mitcheson, B.A.)—In the triangle ABC, take a point α in AB such that $A\alpha = \frac{1}{3}$ of AB, and, similarly, $B\beta = \frac{1}{3}$ of BC, and $C\gamma = \frac{1}{3}$ of CA. In the triangle $\alpha\beta\gamma$, prove, *inter alia*, (1) that each side is parallel to one median of ABC and $\frac{2}{3}$ its length, and is trisected by the other two; (2) that the centroid of both triangles is the same; and (3) that each median of $\alpha\beta\gamma$ is parallel to a side of ABC and half its length.

13714. (J. C. Wasson.)—A variable circle rolls round the circumference of a fixed circle, the contact being internal. If the linear dimensions of the variable circle are $\frac{2}{3}$ or $\frac{4}{3}$ those of the fixed circle, every diameter of the former considered rigidly attached to it has a motion dentically similar to that of a Simson's line.

13715. (J. Brill, M.A.)—Prove that

$$\left(\frac{\partial r}{\partial y}-\frac{\partial q}{\partial z}\right)\left(\frac{\partial s}{\partial x}-\frac{\partial p}{\partial t}\right)+\left(\frac{\partial p}{\partial z}-\frac{\partial r}{\partial x}\right)\left(\frac{\partial s}{\partial y}-\frac{\partial q}{\partial t}\right)+\left(\frac{\partial q}{\partial x}-\frac{\partial p}{\partial y}\right)\left(\frac{\partial s}{\partial z}-\frac{\partial r}{\partial t}\right)$$
$$= \mathrm{J}\left\{\left(\frac{\partial z}{\partial q}-\frac{\partial y}{\partial r}\right)\left(\frac{\partial t}{\partial p}-\frac{\partial x}{\partial s}\right)+\left(\frac{\partial x}{\partial r}-\frac{\partial z}{\partial p}\right)\left(\frac{\partial t}{\partial q}-\frac{\partial y}{\partial s}\right)\right.$$
$$\left.+\left(\frac{\partial y}{\partial p}-\frac{\partial x}{\partial q}\right)\left(\frac{\partial t}{\partial r}-\frac{\partial z}{\partial s}\right)\right\},$$

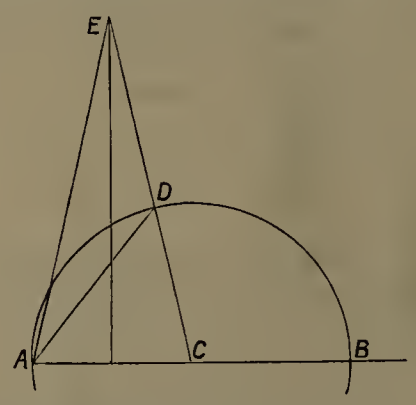
where $$\mathrm{J} = \frac{\partial(p, q, r, s)}{\partial(x, y, z, t)}.$$

13716. (W. S. Cooney.)—Squares are described on the sides of any triangle ABC (same figure as 13568). If T = area of triangle formed by intersections of AA′, BB′, CC′, T′ = area of triangle formed by the whole lines AA′, BB′, CC′, S = area of triangle formed by intersections of A″B′, B″C′, C″A′, and S′ = area of triangle formed by the whole lines A″B′, B″C′, C″A′, prove (1) that the four triangles are similar, and that $\mathrm{T}/\mathrm{S} = \mathrm{T}'/\mathrm{S}' = \frac{1}{2}$, the orthocentre of triangle formed by joining centres of squares (the point O of Quest. 13481) being a double point of T and S; (2) that the distance of any angle A of the triangle from centre of opposite square equals distance between the centres of the other two squares.

13717. (Rev. Dr. Freeth.)—AB = $2a$ is the fixed diameter of a circle ADB, centre C, and equation

$$\mathrm{R} = r\,(\sin 3\theta/\sin\theta).$$

(1) Assign the rectangular coordinates (origin at A). (2) Find the area of the curve, inclusive and exclusive of the inner loop, which is similar to the exterior curve, which latter is a trisectrix.



[An appropriate name is desired for this curve, *e.g.*, the *major* trisectrix, since in the isosceles position there results an isosceles triangle having each base angle triple the vertical angle, whence a regular heptagon is descriptible. Pascal's trisectrix might be termed the *minor* trisectrix, inasmuch as in the isosceles position it yields the isosceles triangle, having each base angle double the vertical angle. From centre C draw any radius CD. Join AD. Produce CD to E, so that DE is equal to AD. Join AE. Then E is a point in the curve, and in the isosceles position AEC is an isosceles triangle, having each base angle the triple of the vertical angle AEC. Also the angle EAC is trisected by the angle EAD.]

13718. (G. Hale Puckle, M.A.)—If (with the conditions of Quest. 13535, No. 437) $\alpha x+\beta y = 0$, $\beta x-\alpha y = 0$ .....(1, 2)

are taken as the axes of x and y, the equation

$$ax^2+2hxy+by^2+c = 0 \ldots\ldots(3),$$

becomes $$(a-\alpha^2)\,x^2+(b+\alpha^2)\,y^2+c = 0 \ldots\ldots(4);$$

and the axis of y is the axis of real foci.

13719. (Rev. W. Allen Whitworth, M.A.)—A rod 9 feet long is to be divided into three parts, of which A. is to have the largest, B. the next, and C. the smallest. If the two fractures are made at random, A.'s, B.'s, and C.'s expectations will be respectively 66, 30 and 12 inches. But, if one fracture be made at random, and the larger portion of the rod be then divided at random, their expectations will be 64, 31, and 13 inches.

NOTICE TO CORRESPONDENTS.

It is requested that all Mathematical communications should be sent to

D. Biddle, Esq., Charlton Lodge, Kingston-on-Thames.

NOTICE.—Vol. LXVII. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, Francis Hodgson, 89 *Farringdon Street, E.C. Price, to Subscribers,* 5*s.*; *to Non-Subscribers,* 6*s.* 6*d.*

THE LONDON MATHEMATICAL SOCIETY.

Thursday, November 11*th*, 1897.—Prof. Elliott, F.R.S., President, in the Chair. Present, eighteen members.

Messrs. J. B. Dale, B.A., and G. B. Mathews, F.R.S., were admitted into the Society.

The President briefly referred to the recent decease of Lt.-Col. J. R. Campbell, a former member of the Council, who had rendered signal service to the Society by his liberal gift of £500 to its funds.

The Treasurer read his Report, and in the course of his remarks pointed out that the publications of the Society had, of recent years, grown to such an extent as to tax its utmost resources, and that, were it not for the help of the funds munificently established many years ago by Lord Rayleigh, and more recently by the late Lt.-Col. Campbell, the Society would be compelled to materially restrict its sphere of activity.

The reception of the Report was moved by Mr. A. B. Kempe, F.R.S., seconded by Mr. J. E. Campbell, M.A., and carried unanimously.

With these motions was coupled one nominating the Rev. T. R. Terry, M.A., to act, should he be able to do so, as Auditor.

The Senior Secretary stated the number of the members to be 229, and the number of communications which had been made to be 42. The Society had lost, during the session, Prof. Sylvester, the Rev. A. Freeman, and Lt.-Col. J. R. Campbell.

Messrs. G. Heppel, M.A., and A. E. Western, B.A., having been appointed Scrutineers, the ballot was taken, with the result that the gentlemen whose names were given in last month's *Educational Times* were elected members of the Council for the ensuing session.

The following communications were made:—

"On an Extension of the Exponential Theorem," Mr. J. E. Campbell.

"The Integral $\int \mathrm{P}_n^2\,dx$ and Allied Forms in Legendre's Functions, between arbitrary limits," Mr. R. Hargreaves, M.A.

"On the Poncelet Polygons of a Limaçon," Prof. F. Morley, M.A. (read by Mr. Matthews).

The following papers were communicated from the Chair:—

"The Calculus of Equivalent Statements" (No. 7), Mr. H. MacColl, B.A.

"The Character of the General Integral of Partial Differential Equations," Prof. Forsyth, F.R.S.

"Note on Bessel Functions," Mr. H. M. Macdonald, M.A.

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